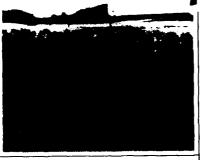
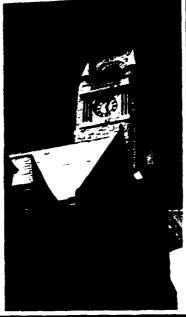
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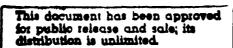
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FINAL ENVIRONMENTAL PLANNING TECHNICAL REPORT

LAND USE

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LAND USE

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INTRODUCTION

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1.0 INTRODUCTION

This final environmental planning technical report (EPTR) is a companion document to the land use, recreation, and visual resources sections of the final environmental impact statement (FEIS) for the Peacekeeper in Minuteman Silos project. It provides data, methodologies, and analyses which supplement and extend those presented in the FEIS.

This final EPTR consists of six major sections. Section 1.0 provides an overview of the Peacekeeper in Minuteman Silos project and a description of the land use resource and its elements.

Section 2.0 presents a detailed description of the environment potentially affected by the project. It includes a capsule description of the environmental setting (Section 2.1) and project requirements (Section 2.2). Section 2.3 defines the Region of Influence and Area of Concentrated Study for the resource. Section 2.4 (Derivation of Data Base) follows with a discussion of the literature sources, group and agency contacts, and primary data which provide the data base for the report. Section 2.5 describes analytic methods used to determine existing environmental conditions in the Region of Influence. Detailed analyses of the existing environment, broken down by constituent elements of the resource, follow in Section 2.6.

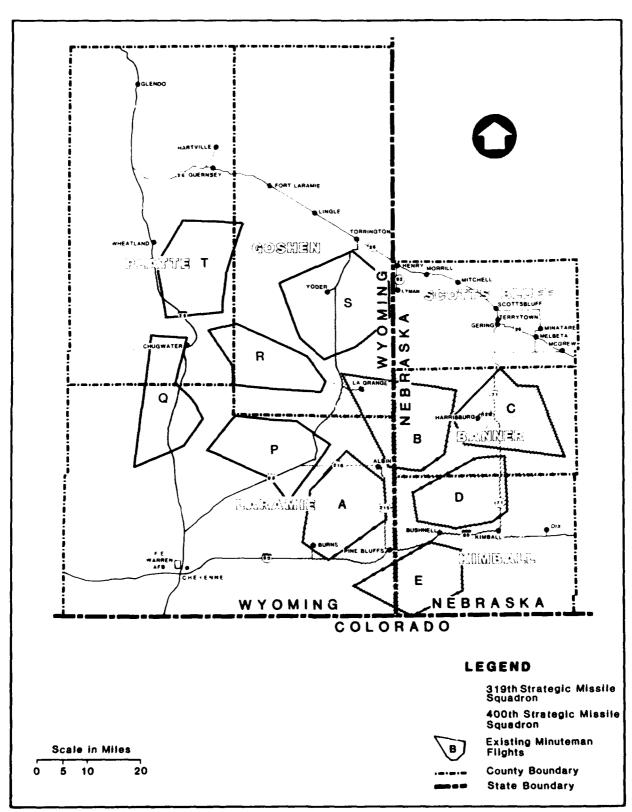
Section 3.0 describes environmental consequences of the Proposed Action and its project element alternatives, the No Action Alternative, mitigation measures, and unavoidable impacts. It contains detailed definitions of each potential level of impact (negligible, low, moderate, and high) for both short-term and long-term impacts. Beneficial effects are also discussed. Definitions of significance are also included. Methods used for analyzing future baseline and project impacts are described, as are assumptions and assumed mitigations. Additional mitigation measures to reduce project impacts are also described.

Sections 4.0 (Glossary), 5.0 (References), and 6.0 (List of Preparers) conclude the EPTR.

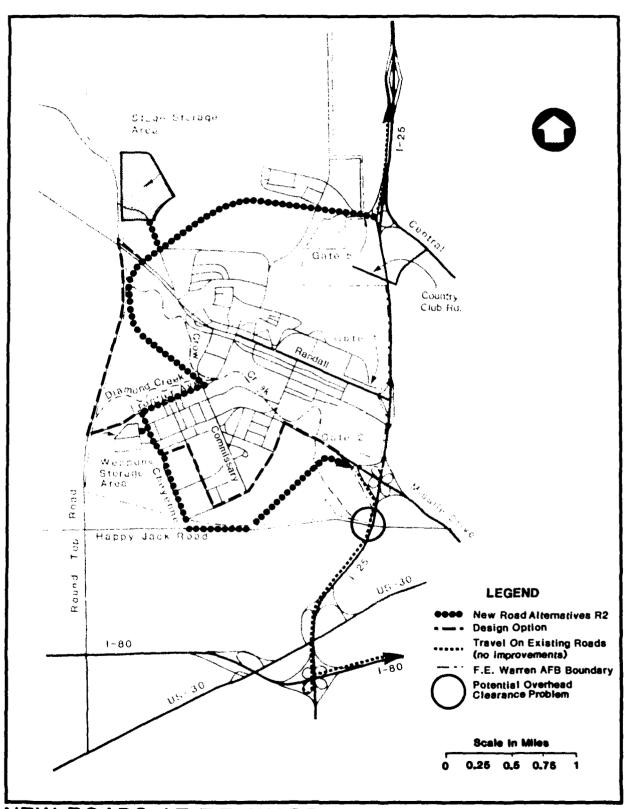
1.1 Peacekeeper in Minuteman Silos

The Peacekeeper system, which the Air Force plans to deploy within the 90th Strategic Missile Wing at F.E. Warren Air Force Base (AFB), Wyoming, is an advanced land-based intercontinental ballistic missile system designed to improve the nation's strategic deterrent force. Deployment of the Peacekeeper calls for replacement of 100 existing Minuteman III missiles with 100 Peacekeeper missiles. Missile replacement will occur in the 319th and 400th Strategic Missile Squadrons, located nearest F.E. Warren AFB (Figure 1.1-1). The Deployment Area covers parts of southeastern Wyoming and the southwestern Nebraska Panhandle.

Construction at F.E. Warren AFB will occur between 1984 and 1986. Fourteen new buildings will be constructed, and modifications or additions will be made to 11 existing buildings. Approximately 400,000 square feet of floor space will be built or modified. A new road configuration, to be selected from three alternatives, is proposed to link PeaceReeper facilities onbase and to provide improved access to or from the base (Figures 1.1-2, 1.1-3, and 1.1-4).

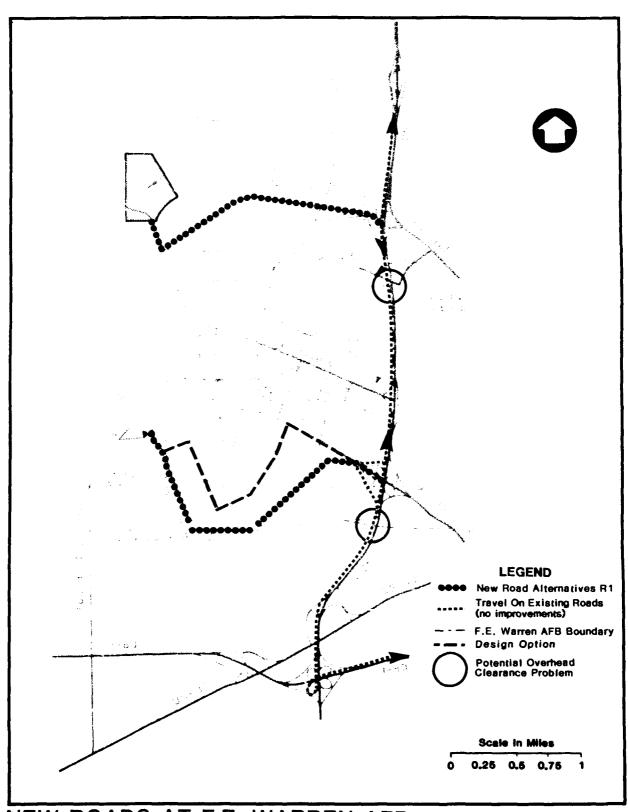


PEACEKEEPER DEPLOYMENT AREA FIGURE NO. 1.1-1



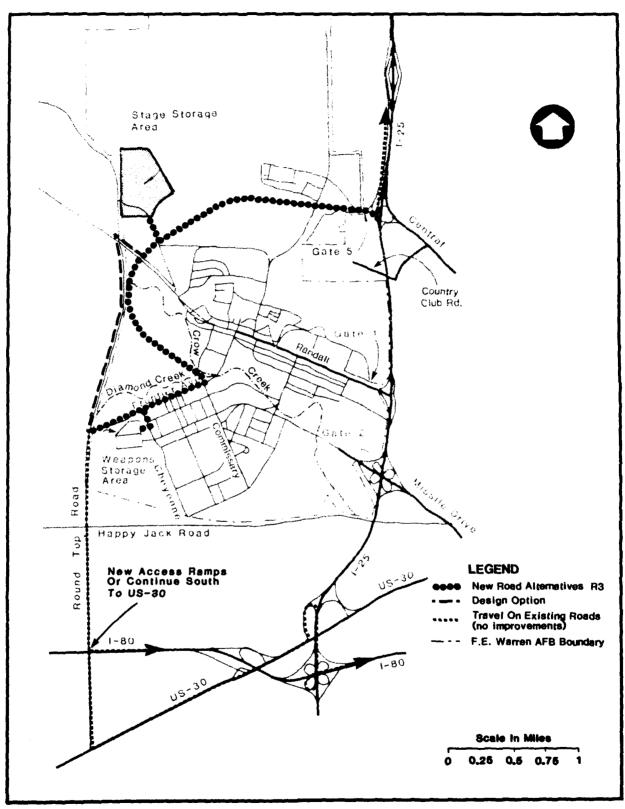
NEW ROADS AT F.E. WARREN AFB: PROPOSED ACTION R2

FIGURE NO. 1.1-2



NEW ROADS AT F.E. WARREN AFB: ALTERNATIVE R1

FIGURE NO. 1.1-3



NEW ROADS AT F.E. WARREN AFB: ALTERNATIVE: R3

FIGURE NO. 1.1-4

Work in the Deployment Area will take place between 1985 and 1989. Many of the access roads to the Launch Facilities will be upgraded. Bridge clearance problems will be corrected, and some culverts and bridges may need to be upgraded. Below-ground modifications will be related to removal of Minuteman support hardware, insertion of a protective canister to enclose the Peacekeeper, and installation of communications systems and support equipment.

A total of 11 alternatives have been chosen as candidate routes for communication connectivity between Squadrons 319 and 400 (Figure 1.1-5). Five routes will be selected for installation. Total buried cable length will range from approximately 82 to 110 miles, depending upon final route selections.

Under the Proposed Action two dispatch stations would be established, one each in the northern and eastern portions of the Deployment Area. Although actual locations have not been selected, Chugwater, Wyoming and Kimball, Nebraska are representative locations analyzed in the Final Environmental Impact Statement and in this EPTR. Dispatch stations would be not more than 5 acres in size and would be used for the temporary open storage of equipment and material. One or more buildings would also be present at each site for contractor use as office space. All dispatch stations would be removed prior to project completion. In addition to the Proposed Action, two alternatives are considered in this environmental impact assessment:

- 1) One dispatch station only, in the eastern part of the Deployment Area; or
- 2) No dispatch stations.

Two options have been identified for resurfacing Deployment Area roads. Surfacing Option A involves gravel upgrades of 252 miles of existing gravel roads and the paving or repaving of 390 additional miles of gravel and asphalt roads. Surfacing Option B involves the paving or repaving of all 642 miles of gravel and asphalt roads listed in Surfacing Option A.

Direct manpower for construction, assembly and checkout, and operation of the system will peak during 1986 when an average of nearly 1,600 persons will be required. In 1991, following deployment, the remaining increased operational workforce at F.E. Warren AFB will consist of about 475 persons. Table 1.1-1 presents the average annual workforce, based on quarterly estimates for each year of construction.

Table 1.1-2 shows the average number of jobs including those which are considered to be filled by available labor; as well as those filled by weekly commuters and immigrants, on an annual average basis. In general, locally available labor will fill all the road and construction jobs.

ALTERNATIVE CABLE ROUTES

 $\begin{tabular}{ll} Table 1.1-1 \\ PROJECT AVERAGE MANPOWER REQUIREMENTS BY YEAR$^1 \\ \end{tabular}$

	1984	1985	1986	1987	1988	1989	1990	1991
Deployment Area Construction Assembly and Checkout	5 0	40 15	60 210	60 285	40 265	0 265	0	0
Operations	0	0	0	0	0	0	0	0
Defense Access Road	0	275	315	150	0	0	0	0
Subtotal	5	330	585	495	305	265	10	0
Operating Base								
Construction	100	630	70	0	0	0	0	0
Assembly and Checkout	40	130	525	555	515	510	22	0
Operations	0	130	415	490	500	500	475	475
Subtotal	140	890	1,010	1,045	1,015	1,010	497	475
TOTAL:	145	1,220	1,595	1,540	1,320	1,275	507	475

Note: 1 Estimates based on average quarterly employment.

Table 1.1-2

TOTAL JOBS, LOCAL AND REGIONAL HIRES, AND INMIGRATION FOR THE EMPLOYMENT DEMAND REGION OF INFLUENCE

		1984	1985	1986	1987	1988	1989	1990	1991 and beyond
1)	Total (Direct/ Indirect) Additional Jobs	250	2,400	2,675	2,550	2,025	1,825	650	590
2)	Average Annual Local Hires	157	1,750	1,525	1,350	1,100	815	225	230
3)	Average Annual Weekly Commuters	25	225	175	100	25	10	0	0
4)	Average Annual Inmigrant Workers	75	425	950	1,100	925	1,000	425	360
5)	Unsuccessful Job-Seekers	30	185	180	150	165	110	70	0
6)	Inmigrant ¹ Population	275	1,475	2,875	3,200	3,025	2,875	1,200	925

Note: 1 Includes inmigrants, workers, and unsuccessful job-seekers.

As a result of the purchase of materials in the project area and the local expenditures of project employees, additional jobs will be created in the region. These jobs are estimated to number as follows:

Year:	1984	1985	1986	1987	1988	1989	1990	1991 <u>& on</u>
Indirect Jobs:	105	1,180	1,080	1,010	705	550	143	115

Estimated materials and costs for the project, based on total project budgetary considerations, are shown by Standard Industrial Classification in Table 1.1-3.

A number of construction and support materials will be obtained from sources within the project area. Among the materials exerting a major influence on assessment of project impacts are aggregate (4.6 million tons), water (516 acre-feet), fuel (7.6 million gallons), and electricity (3.8 million kWh). In the case of water supply for construction, the Air Force will identify and, if necessary, obtain permits for the water or purchase existing water rights.

1.2 Description of Resources

1.2.1 Land Use

The land use resource includes urban land use and planning, and rural land use and agriculture.

1.2.1.1 Urban Land Use and Planning

Urban land use and planning focuses on population-induced indirect project effects and impacts on the amount and type of developed and undeveloped land in urban areas. It also addresses direct land use impacts due to construction of proposed alternative dispatch stations and road design options in the vicinity of F.E. Warren AFB.

1.2.1.2 Rural Land Use and Agriculture

Rural land use considers the direct land use impacts of project development of cable systems, transporter/erector (T/E) road modifications, Launch Facility (LF) modifications, and establishment of required explosives safety Quantity Distance (QD) zones around the LFs. Agriculture examines indirect impacts on agricultural management practices.

Table 1.1-3
ESTIMATED MATERIAL REQUIREMENTS
BY STANDARD INDUSTRIAL CLASSIFICATION

Industrial Classification	Estimated 1982 Dollars (1,000s)
Fabricated Structural Metal Unclassified Professional Services and Products Cement and Concrete Products General Wholesale Trade Structural Metal Products Millwork, Plywood, and Wood Products Copper, Copper Products Electrical Lighting and Wiring Stone and Clay Mining and Quarrying Stone and Clay Products Basic Steel Products Heating and Air Conditioning Apparatus Plumbing and Plumbing Fixtures Petroleum Refining and Products Material Handling Equipment Sawmills and Planing Mills Paints and Allied Products Plastic Products Furniture and Fixtures Structural Clay Products General Hardware Scientific Instruments Rail Transport Real Estate Construction, Mining, and Oilfield Machinery	\$22,999 14,358 10,862 8,890 11,983 3,941 3,902 3,871 39,728 2,955 1,233 1,525 938 5,148 1,970 1,478 1,478 1,478 1,478 1,478 1,478 986 986 986 986 986 986 986 986 986
TOTAL:	\$145,402

Note: 1 Not included in other Industrial Classifications.

1.2.2 Recreation

1.2.2.1 Regional Recreation

Regional recreation is defined for this analysis as participation in outdoor activities which are dependent upon or enhanced by natural surroundings and resources. This type of recreation, also known as resource-based recreation, is generally associated with federal, state, and other public lands offering outdoor recreational opportunities. In general, people interested in participating in regional recreational activities are willing to travel fairly long distances to areas offering such opportunities.

1.2.2.2 Local Recreation

Local recreation is defined as participation in recreational activities which are generally linked to developed facilities and/or parkland. This type of recreation, also known as user-based recreation, is most often associated with city or county government lands, developed specifically for recreation participation. Local recreation pursuits are for the most part located in or near urbanized areas.

1.2.3 Visual Resources

The visual resources assessment describes the character of the landscape of the area in which a project is proposed and objectively evaluates potential impacts on scenic quality resulting from project development. Scenic quality is defined as the overall dominant impression retained after walking or driving through or flying over a land area.

AFFECTED ENVIRONMENT

2.0 AFFECTED ENVIRONMENT

2.1 General

This section presents a general description of the physical and cultural setting within the Region of Influence (ROI) for this analysis. Formally defined in Section 2.3, the ROI comprises a six-county area, Laramie, Platte, and Goshen counties in Wyoming, and Kimbali, Banner, and Scotts Bluff counties in Nebraska. The intent of this section is to provide a general orientation to the land area under consideration prior to addressing more detailed land use, recreation, and visual characteristics.

The physical setting description addresses the regional physiography, including topography, hydrology, climate, and vegetation. The cultural setting description includes population settlement patterns, transportation facilities, agricultural land use, natural resources production, and lands used for recreation and tourism. Figure 2.1-1 summarizes the major physical and cultural attributes of the region.

2.1.1 Physical Setting

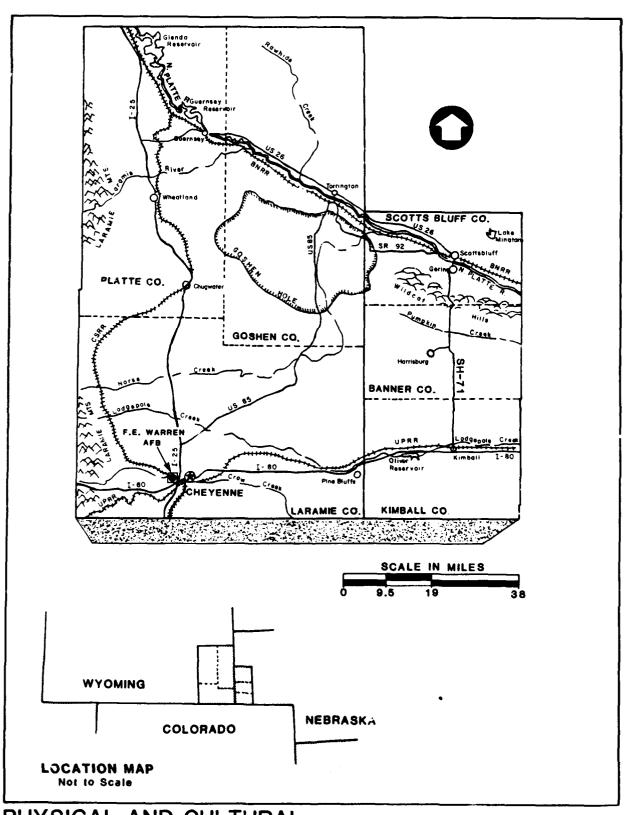
Most of the area within the ROI lies within the High Plains section of the Great Plains Physiographic Province; mostly treeless, semiarid lands which vary from essentially flat to gently or moderately rolling. Elevation decreases from west to east and breaks in the topography are predominantly related to the ridges and valleys associated with the down-cutting of local streams. The largest of these is the North Platte River Valley which varies from 1 to 4 miles in width and 300 to 400 feet in depth through Platte, Goshen, and Scotts Bluff counties.

Other noticeable topographic features are mostly minor isolated hills and buttes, with a few exceptions. These include Wildcat Hills, extending northwest to southeast across Scotts Bluff and Banner counties, and Goshen Hole in Goshen County, a large depression measuring about 30 to 40 miles and formed as a direct result of down-cutting action by the North Platte River. The western rim of Goshen Hole rises as much as 700 feet in elevation from surrounding lowlands.

Most streams in the ROI follow the general elevation trend and flow from west to east. Many are intermittent, flowing only in response to runoff-producing storms but otherwise dry for the rest of the year. Numerous small impoundments are found along small streams in the higher elevation ranching areas of western Laramie and Platte counties; these are used primarily for stock watering purposes.

The North Platte River and its tributaries drain nearly the entire region with the exception of Lodgepole and Crow creeks in Laramie County. The river irrigates the largest amount of cropland in the state of Wyoming (as well as large acreages of the Nebraska Panhandle) and its valley has been used as a transportation corridor, with attendant settlement points, since the early exploration days of the American West.

Two important impoundments of the North Platte River, Glendo and Guernsey reservoirs, are multipurpose reservoirs used primarily for flood control,



PHYSICAL AND CULTURAL SETTING

agricultural and municipal water supply, wildlife and recreation havens, and hydropower generation. Other important reservoirs are found in central Platte and Goshen counties, serving the concentrated agricultural developments in these areas. Two major impoundments in Nebraska are Lake Minatare, northeast of Scottsbluff, and Oliver Reservoir, west of Kimball; both are popular recreation attractions. Another major source of irrigation supply, and an important tributary of the North Platte River, is the Laramie River system, flowing eastward through central Platte County and joining the North Platte at Fort Laramie.

Crow and Lodgepole creeks are tributaries of the South Platte River system; both streams headwater in the Laramie Mountain Range west of the Laramie County line. Crow Creek flows eastward through the city of Cheyenne and then south into Colorado. Lodgepole Creek flows eastward through south-central Laramie County and continues in that direction through central Kimball County.

The semiarid climate of the six-county ROI is characterized y low precipitation, low relative humidity, wide swings in temperature, and high wind velocities. The growing season averages between 120 and 140 days each year. Precipitation generally varies from 12 to 18 inches annually; the highest amounts are generally found at higher elevations and toward the eastern fringes of the ROI. The semiarid nature of southeastern Wyoming and eastern Nebraska dictates naturally occurring short and medium-grass prairies over most of the ROI. Half of the average annual precipitation usually falls in the form of intense rain showers or thunderstorms during late spring and early summer. Tree growth occurs mainly along stream bottoms and in floodplains. The combination of lack of trees, high winds, and dry soil conditions contributes to wind erosion in most areas of the ROI while intense rainfall on gently sloping land contributes to water erosion in others.

2.1.2 Cultural Setting

The six-county ROI spans 9,317 rq miles and contains 136,808 residents (U.S. Department of Commerce 1981c, 1981d). The population density varies widely from 1.2 persons per square mile (sq mi) in Banner County to 52.9 persons per sq mi in Scotts Bluff County. Major urban centers for the region include Cheyenne, Wyoming (population 50,000) and Scottsbluff, Nebraska (population 14,000). Cheyenne and Scottsbluff are the second and eleventh largest cities in their respective states. First other population centers are small, usually under 5,000; many are under 1,000 persons.

Portions of two of Wyoming's three interstate highways are found in Laramie and Platte counties; Interstate 80, a major national east-west artery, and Interstate 25 running north through western Laramie County and central Platte County. Other primary federal routes are U.S. 26, paralleling the North Platte River, and U.S. 85, an important connecting route between Cheyenne and Torrington. State highways serve as primary links between some of the rural communities, particularly in the eastern portion of the ROI. Highway 92 runs east-west connecting Torrington and Scottsbluff south of the North Platte River. Nebraska SR71 runs north-south through the centers of Scotts Bluff, Banner, and Kimball counties, an important link with Interstate 80 between the communities of Kimball and Scottsbluff.

Many miles of smaller unimproved dirt and gravel roads criss-cross the ROI counties in a largely rectangular grid following section lines in the agricultural areas, and in an irregular fashion usually following elevational contours in the ranching areas. These roads serve primarily as local access to fields, stock watering locations, outlying farmsteads, and as connectors to other county roads.

Other forms of transportation include rail and air systems. To a large extent, rail lines parallel the highway pattern. An exception to this is the Colorado and Southern Railway which maintains a line through western Laramie County connecting the Horse Creek oilfields. Burlington Northern operates a line paralleling the North Platte north of the river and Union Pacific operates one south of the river. The Union Pacific also runs east-west through Kimball and Laramie counties (adjacent to U.S. 20 and Interstate 80) and maintains a connecting spur north-south between Torrington and Pine Bluffs.

Two commercially serviced airports are located in the ROI; one in Cheyenne operated by the City and one outside Scottsbluff operated by the County. Both are served by Rocky Mountain Airways. Frontier Commuter provides service to Cheyenne and Frontier Airlines services the Scottsbluff area.

As with railroads, major pipeline and utility corridors follow a pattern similar to the existing road network. Petroleum product pipelines extend north and south through Platte and western Laramie counties. Crude oil pipelines generally criss-cross the ROI and gas pipelines are concentrated along the North Platte River corridor.

Ninety-five percent of the six-county ROI is devoted to agricultural land uses, primarily irrigated and dry farmed cropland and rangeland (U.S. Department of Commerce 1981a, 1981b). Of this land area, 7 percent is devoted to irrigated acreage, 19 percent to dry land farming, and 67 percent to rangeland.

The region is a mixture of short-grass and tall-grass prairie biomes, and was historically utilized as open rangeland for beef cattle production, an industry currently dominated by large-scale operations. Cattle production peaked in the late nineteenth century and declined thereafter. After passage of the Kincaid (Homestead) Act in 1904, many homesteads were established in the ROI. However, soil erosion resulting from soil mismanagement, along with drought, brought about a decrease in homesteads during the 1920s and 1930s. Ranching interests bought out many abandoned farms and subsequently converted them into large ranching operations (Keech and Bentall 1982).

The historic trend of open range to homesteads to large ranch operations has resulted in the current distribution of rural agricultural land use found today: where soils are relatively deep and fertile, topography gentle and water adequate, cash crop farms predominate (i.e., Kimball and Scotts Bluff counties and southern Banner County, Nebraska); when these conditions do not exist and the most productive use of available land is grazing, relatively large cattle operations are predominant, as western Laramie County, Wyoming. Agricultural production contributed \$1.3 million to the economy of the ROI in 1979 (U.S. Department of Commerce 1972). This represents 14 percent of the total earnings for the regional economy in that year.

Ranching activities in Wyoming and Nebraska are such that controlled distribution of the livestock by fencing and placement of watering holes is needed to prevent overgrazing and subsequent destruction of the native vegetative habitat. Likewise, dry farming practices usually employ strip-cropping, stubble mulching, or other tillage techniques to improve soil moisture retention and prevent wind and water erosion. Irrigation methods include gravity flow from surface water diversion canals or groundwater pumping. Self-propelled center pivot sprinkler systems are commonly used to eliminate labor costs and effectively irrigate areas of uneven topography where gravity flow is not possible.

Sugar beets, corn, beans, potatoes, and alfalfa are the principal irrigated crops and winter wheat is the principal dryfarmed crop. Ranching activities are devoted mainly to cow-calf operations; there is very little sheep production (U.S. Department of Agriculture 1962, 1968, 1971a, 1971b, 1982). In addition to land used for crop production and ranching, other agriculturally related lands include those used for farm residences, barns, livestock pens, and equipment/implement storage buildings.

Primary energy and other natural resources in the ROI include oil and natural gas production and sand and gravel operations. Oil and natural gas production is concentrated in the southwestern portion of Nebraska and is an important economic resource for the area. Oilfield concentrations occur in northeast Kimball County, southeast of the city of Kimball, east-central Laramie County (the Chivington oilfield), and northwest of Cheyenne (the Horse Creek oilfields). Scattered single oil pumps may be observed in Banner County and throughout the ROI. Sand and gravel mining activities are also prevalent. Every county has at least one or more quarry operations usually used for local construction industries. Other miscellaneous resources include limestone and dimension stone in Platte County and lime rock production in western Laramie County (Brown 1980).

Most tourist and recreation attractions in the six-county region center on the historical landmarks along the Oregon Trail and at various water bodies where boating, hiking, camping, and fishing facilities are provided. Hunting is a popular pastime for local residents particularly where agricultural crops provide food and cover for upland game species such as pheasant, and where the North Platte River corridor provides a haven for waterfowl (Brown 1980). Fort Laramie National Historical Monument near Guernsey and Scotts Bluff National Monument near Scottsbluff are important historical landmarks. Medicine Bow National Forest and Glendo, Guernsey, and Curt Gowdy state parks in Wyoming are major destinations for boating, hiking, camping, and fishing. Important outdoor recreation locations in the Nebraska portion of the ROI include the North Platte National Wildlife Refuge (Lakes Minatare and Alice), Wildcat Hills State Park, and Oliver Reservoir.

2.2 Project Requirements

Overall project requirements are outlined in Section 1.1. Requirements specific to the land use resource are described below.

2.2.1 <u>Direct Project Requirements</u>

Direct project requirements for land use include land required on a temporary basis for the installation of buried cables (up to 510 acres), land within existing road rights-of-way for road upgrading within the Deployment Area (DA), land within existing Launch Facility (LF) fence lines to support modifications to existing Minuteman missile silos, land within the Quantity Distance (QD) zones surrounding each of the 100 LFs where inhabited structures would be restricted for the life of the project due to explosives safety requirements (22,000 acres), and land within the vicinity of urban areas for proposed road modifications and dispatch stations.

2.2.2 Indirect Project Requirements

Indirect project requirements for land use include land in urban areas to support temporary and permanent population inmigration due to the project. This land would be used for housing and associated infrastructure improvements, as well as for such support uses as commercial, public and governmental, industrial, and parks.

2.3 Regions of Influence

2.3.1 Land Use

2.3.1.1 Urban Land Use and Planning

2.3.1.1.1 Definition

The ROI for urban land use and planning includes the counties where population inmigration from the project was anticipated: Laramie, Platte, and Goshen counties, Wyoming; Kimball, Banner, and Scotts Bluff counties, Nebraska. The Area of Concentrated Study (ACS) for urban land use includes the Cheyenne Urban Area, the city of Kimball, Nebraska and the towns of Wheatland, Chugwater, and Pine Bluffs, Wyoming. The ROI and ACS are shown in Figure 2.3.1-1.

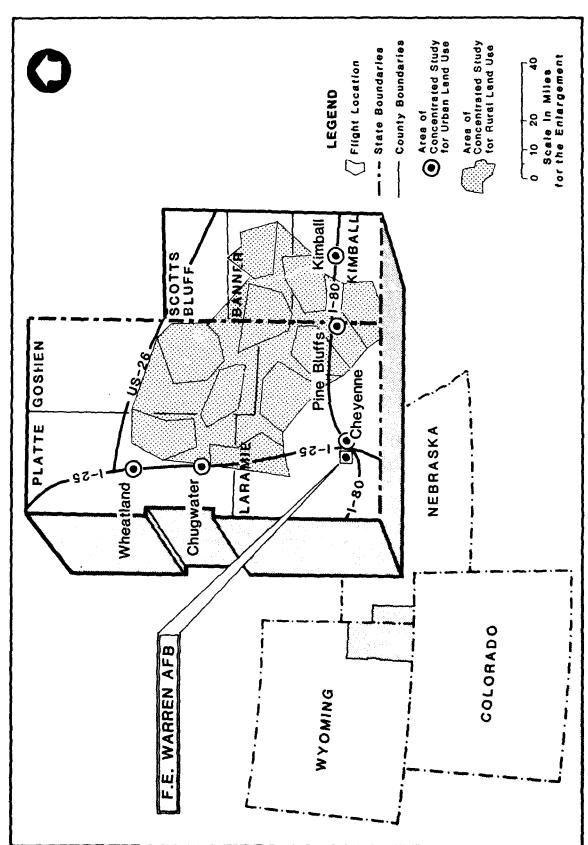
2.3.1.1.2 Justification

The ROI and ACS for urban land use and planning are based on a determination of where population inmigration would occur due to the project, and where population inmigration could lead to land use changes, primarily as a result of the need for new residential development and associated support services and infrastructure.

2.3.1.2 Rural Land Use and Agriculture

2.3.1.2.1 Definition

The ROI for rural land use and agriculture (Figure 2.3.1-1) includes Laramie, Platte, and Goshen counties, Wyoming, and Kimball, Banner, and Scotts Bluff counties, Nebraska. The ACS for rural land use and agriculture is the DA, including the LFs, the QD zones surrounding each LF, those areas between Flights where new cable system routes are proposed, and the transporter/erector (T/E) roads.



REGION OF INFLUENCE FOR LAND USE

2.3.1.2.2 Justification

The rural land use and agriculture ROI contains those six counties where all direct and indirect land use impacts from the project would occur. The ACS contains those areas within the six ROI counties where cable route, LF site, T/E road, and QD zone modifications are proposed.

2.3.2 Recreation

2.3.2.1 Regional Recreation

2.3.2.1.1 Definition

The ROI for the regional recreation analysis is a circle with a 150-mile radius from Cheyenne, the area forecast to receive the greatest influx of population attributable to the proposed project. This ROI includes parts of Wyoming, Colorado, and Nebraska. The ACS, however, includes only the Wyoming counties of Laramie, Platte, Goshen, Albany, and Carbon. The ROI for regional recreation is shown in Figure 2.3.2-1.

2.3.2.1.2 Justification

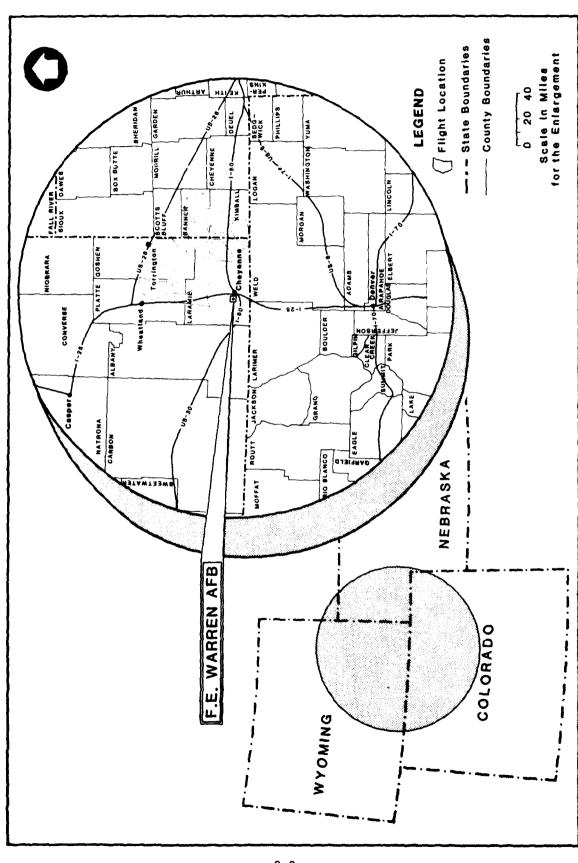
The 150-mile ROI radius represents a reasonable upper limit that a person living in Cheyenne can be expected to travel for the purpose of participating in outdoor recreation during a 1 or 2-day period.

The ACS for the regional recreation analysis was determined from conversations with federal and state recreation planners, as well as from available visitation data pertaining to visitor origins. It was concluded from these sources that the majority of recreational participation originating in Cheyenne occurs within the Wyoming counties of Laramie, Platte, Goshen, Albany, and Carbon. Carbon County is included in the ACS for purposes of this analysis for three reasons. First, it is the intention of the Land Use EPTR to present a broad assessment of regional recreation. Second, portions of Medicine Bow National Forest (Hayden Unit and a part of Medicine Bow Unit) and Seminoe State Park are located in the county. Finally, recreation experts in the Cheyenne area identified Carbon County as a perceived area of impact. Although analysis showed the impact to be minor, it was nonetheless appropriate to include it in the ACS. It was also ascertained that Wyoming residents generally do not travel to Colorado or Nebraska for most outdoor recreational activities.

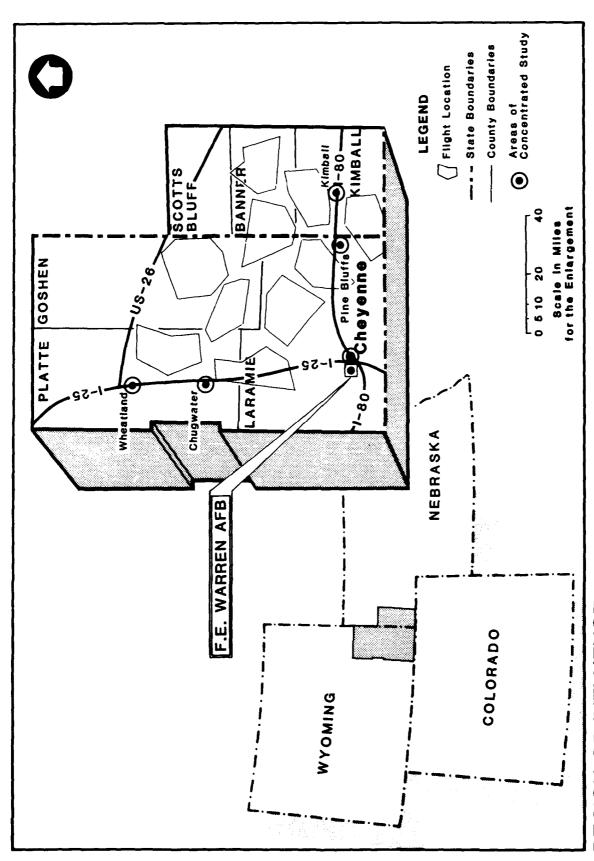
2.3.2.2 Local Recreation

2.3.2.2.1 Definition

The ROI for local recreation includes the six counties where population immigration from the project was anticipated: Laramie, Platte, and Goshen counties, Wyoming; Kimball, Banner, and Scotts Bluff counties, Nebraska. The ACS for local recreation includes the Cheyenne Urban Area, Wheatland, Pine Bluffs, and Chugwater, Wyoming, and Kimball, Nebraska. Both the ROI and the ACS are shown in Figure 2.3.2-2.



REGION OF INFLUENCE FOR REGIONAL RECREATION



REGION OF INFLUENCE FOR LOCAL RECREATION

2.3.2.2.2 Justification

The ROI for local recreation included all six of the counties where inmigration from the project was anticipated. This ROI was expected to account for the majority of local recreation participation since, by definition, people do not travel long distances to participate in local recreation activities. The ACS for local recreation accounts for those areas which were anticipated to experience the highest levels of population influx.

2.3.3 <u>Visual Resources</u>

2.3.3.1 Definition

The ROI for visual resources is a six-county region including Laramie, Platte, and Goshen counties, Wyoming, and Kimball, Banner, and Scotts Bluff counties, Nebraska (Figure 2.3.3-1).

2.3.3.2 Justification

The six-county region was selected as the ROI because direct impacts are expected to be concentrated at F.E. Warren AFB and the DA. Indirect population-induced effects are projected for the Cheyenne Urban Area, Wheatland, Pine Bluffs, and Chugwater, Wyoming, and Kimball, Nebraska, where the majority of the inmigrant population is expected to settle. For the purposes of this study, the ROI and the ACS are synonymous.

2.4 Derivation of Data Base

2.4.1 Land Use

2.4.1.1 Urban Land Use and Planning

Major literature sources for urban land use and planning included comprehensive land use plans, land use surveys, development ordinances, and land development manuals which present general guidelines and standards for land use.

Primary data for urban land use and planning included collection of data on occupied and vacant residential subdivisions from county assessor records and visits to communities.

Group and agency contacts included planning and zoning departments and other governmental offices of communities and counties within the ROI. Planning directors, zoning administrators, and other development officials were contacted, as well as local people knowledgeable about development trends (realtors, directors of chambers of commerce, etc.).

The Cheyenne-Laramie County Regional Planning Office (CLCRPO) was the primary provider of land use data for the Cheyenne Urban Area. The Kimball City Manager's office, responsible for local planning functions, provided land use data for the city of Kimball. In Wheatland the primary provider of data was the planner/building inspector and in Chugwater and Pine Bluffs, members of the town councils and planning commissions.

REGION OF INFLUENCE FOR VISUAL RESOURCES

2.4.1.2 Rural Land Use and Agriculture

The primary data sources for rural land uses were the U.S. Department of Agriculture (USDA) Soil Conservation Service (SCS) soil surveys, U.S. Department of Commerce Census of Agriculture, and Bureau of the Census population data for the ROI counties. Descriptions of the ROI physical and cultural settings were obtained, in part, from a geographical survey (Brown 1980) and standard reference encyclopedias.

The data base for existing conditions for agriculture was developed from the following sources. Literature on agriculture was reviewed and information on regional farm and ranch operations obtained. Personnel from resource management agencies, such as the SCS and County Extension Agents, were contacted and regional operations described. The type of information gathered included history of ranching and farming in the region; historical and recent trends in agricultural usage; crops grown currently and general information on yields and productivity; and agricultural practices, including intensity, timing, and duration.

The existing conditions analysis was conducted using LANDSAT 1:250,000 scale and Geographic Management Information System (GMIS) 1:158,400 scale satellite imagery, as well as 1:18,000 scale aerial photography. U.S. Geological Survey (USGS) topographic maps (at 1:24,000, 1:62,500, and 1:250,000 scales) and the USGS 1:250,000 scale Land Use/Land Cover map series were also examined for land use and locational information.

2.4.2 Recreation

2.4.2.1 Regional Recreation

Recreation areas within the ROI were identified from a variety of published sources including the various State Comprehensive Outdoor Recreation Plans (SCORPs), park master plans, travel brochures, highway maps, USGS maps, etc. Data pertaining to existing visitation and capacities at the various recreation areas within the ROI were collected from park master plans, statistics maintained by regional recreation agencies, and verbal estimates from recreation planners. The quality and availability of these data varied by jurisdictional agency as well as by individual recreation area. Agencies contacted included the National Park Service (NPS), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), Wyoming Recreation Commission (WRC), Wyoming Game and Fish Department (WGFD), Colorado Division of Parks and Outdoor Recreation (CDPOR), Colorado Division of Wildlife (CDOW), Nebraska Game and Parks Commission (NGPC), South Platte Natural Resource District, Cheyenne Parks and Recreation Department, and others with jurisdiction over recreational lands within the ROI. Field observations were also made to verify estimates and eliminate data gaps.

2.4.2.2 Local Recreation

For the local recreation analysis, information was gathered from three primary sources: public documents, group and agency contacts, and field surveys. Documents included parks and recreation master plans, parks and recreation guidelines, and comprehensive plans developed for the cities in the ACS. Group and agency contacts included parks and recreation departments, local and

regional planning departments, school districts, and other institutions which service the cities within the ACS. Field surveys were used to supplement and update data from local agencies and available documents.

Primary documents included the preliminary parks and recreation master plan for Cheyenne and comprehensive land use plans for Cheyenne, Kimball, Wheatland, Pine Bluffs, and Chugwater. Standards for the needs analysis were derived from various SCORPs, locally adopted guidelines, and the parks and open space guidelines published by the National Recreation and Parks Association (NRPA).

Primary group and agency contacts for Cheyenne included the City Parks and Recreation Department, CLCRPO, Laramie County School District No. 1, Laramie County Community College, and the YMCA. For Kimball, these contacts included Kimball County School District No. 1, the City of Kimball, and the Panhandle Natural Resource District. For Pine Bluffs, contacts included the Town Parks and Recreation Manager and Laramie School District No. 2. For Wheatland, contacts included the Director of the Platte County Parks and Recreation Department and the Town of Wheatland Purchasing Agent.

Primary data for local recreation were generated from field surveys of parks and recreation facilities.

2.4.3 <u>Visual Resources</u>

Primary data for the visual resources assessment were derived from field surveys conducted from major transportation routes and interconnecting state and county roads throughout the six-county ROI.

Literature sources included publications developed by the BLM, the USFS, and private corporations and consultants in support of visual analysis systems for both open rangeland and forestland.

2.5 Analytic Methods for Existing Conditions

2.5.1 Land Use

2.5.1.1 <u>Urban Land Use and Planning</u>

The following analytic methods were used to determine existing conditions for urban land use and planning: 1) comprehensive land use plans, land use surveys, and maps were analyzed to determine existing development patterns, the amount of vacant land within communities, and generalized development constraints; 2) local development regulations were analyzed; 3) existing per capita land acreages, by use category, were calculated and compared for different communities on the basis of land use standards; and 4) interviews were conducted with local planners and development officials to determine trends. In addition, primary data were collected from Laramie County Assessor's files on the number of vacant versus occupied platted lots in residential subdivisions in the county. (This latter information is contained in the Jurisdictional EPTR Housing and Land Survey, Appendix B.)

Acreages of land in six major use categories (residential, commercial, industrial, public and semipublic, parks and open space, and streets) were estimated using the most recent land use survey data available and updating this with aerial photos, local interviews, and housing counts. These acreage figures were then applied to local population figures for corresponding years to determine the existing per capita use of land in different categories. The per capita acreages were compared to recommended nonresidential land use standards (De Chiara 1982; Briscoe, Maphis, Murray, and Lamont, Inc. 1978; Nez 1961) to determine the general capacity of communities to handle additional population growth. The standards selected for use have been applied to both boomtown and gradual growth situations.

Local development ordinances were identified to determine whether the three major land use controls (i.e., comprehensive plan, subdivision regulations, and zoning ordinance) were adopted, along with any other important regulations such as building codes or annexation policies that could influence development. Because the city of Cheyenne was anticipated to undergo the largest population influx from the project, a more detailed analysis of the planning and development process was conducted for this area (Appendix A). City officials and knowledgeable residents were interviewed about development trends and activities (see Section 5.2 for list of personal communications).

2.5.1.2 Rural Land Use and Agriculture

Rural land uses within the ROI were initially analyzed through examination of primary map and census data. Physical/cultural setting conditions were analyzed through map interpretation (USGS topographic quads) and limited field surveys.

Site-specific locations of the agricultural land use categories of irrigated and dry farmed cropland and rangeland were determined by inspection of 1:18,000 scale aerial photographs and transferred to USGS 1:24,000 topographic quad maps. The boundaries were then planimetered to determine the extent of each of the three agricultural land categories within the buried cable corridors.

Analysis of existing rural residential conditions within the ACS utilized census data for the ROI counties. Agricultural practices within the ROI were determined from interviews and field observation. The information derived was compared with data from photointerpretation and planimetering of the study area and the secondary data was collected from literature review and government agricultural management agencies.

2.5.2 Recreation

2.5.2.1 Regional Recreation

The existing conditions methodology for the regional recreation analysis involved the identification of all resource-based recreation areas within the ROI and the collection of visitation data by activity, where possible, for each. Recreation areas were identified and their locations determined using a variety of literature sources and maps, agency contacts, and field investigation. These areas were then categorized and discussed by jurisdictional agencies.

Visitation data by activity were collected for each recreation area in order to establish a basis from which to make comparisons. Wherever possible, these data were collected for ten specific recreational activities: camping, picnicking, skiing, swimming, fishing, hunting, boating, hiking/horseback riding, snowmobiling/cross-country skiing, and off-road vehicle (ORV) use. This sometimes required the aggregation of information provided by an agency for specialized activities (such as upland, big game, and small game hunting) into one concise category (hunting). In other instances, activity categories used by a given agency, such as sightseeing or nature study, were not included in the inventory since they were not compatible with any of the ten activities considered in this study.

Even though the same ten activities were analyzed for all recreation areas, total comparisons of their visitation levels could not be made since the visitation units of measurement provided by the various agencies were often incompatible. Some agencies define their visitation levels by the number of visitors participating in each activity while others use either visitor days or activity days of participation, sometimes interchangeably. In some cases, only total visitation estimates without any activity breakdowns were available. Despite these data inconsistencies, the existing conditions inventory presents the data exactly as they were provided by each agency. This allows the agencies to identify their own visitation estimates before any processing of the data is attempt

2.5.2.2 Local Recreation

The three categories that normally comprise a local parks and recreation system - parkland, recreational facilities, and the staffing necessary to administer and operate a local parks and recreation department - formed the basis for the local recreation analysis. An assessment estimated current city conditions in terms of the available supply and demand for additional parkland, facilities, and staffing.

2.5.2.2.1 Parks

Parkland demand was determined using population-based recreational standards which relate units of population to units (acres) of parkland. A recreational standard of 6 acres of parkland per 1,000 population was used for the analysis.

It was also necessary to locate specific neighborhoods or areas which were undersupplied with parkland, particularly where much of the parkland was concentrated in a few locations.

2.5.2.2.2 Facilities

The facilities analysis was conducted on a communitywide level using standards supplied by NRPA and the SCORPs. For the analysis, only facilities within the city limits that are owned and/or maintained by city departments were examined.

Institutional and private recreation facilities are described in the existing conditions section but are not included in the analysis because they are not made available to the general public on a regular basis.

2.5.2.2.3 <u>Staffing</u>

The staffing analysis was also conducted on a communitywide level. Both the full and part-time staff necessary to administer, operate, and maintain parks and recreation facilities were examined. Using current budget information, full and part-time personnel figures were converted to a total equivalent of full-time employees. Based on the total full-time equivalent figures and the current population for each city, it was possible to determine the current ratio of employees per 1,000 population.

2.5.3 Visual Resources

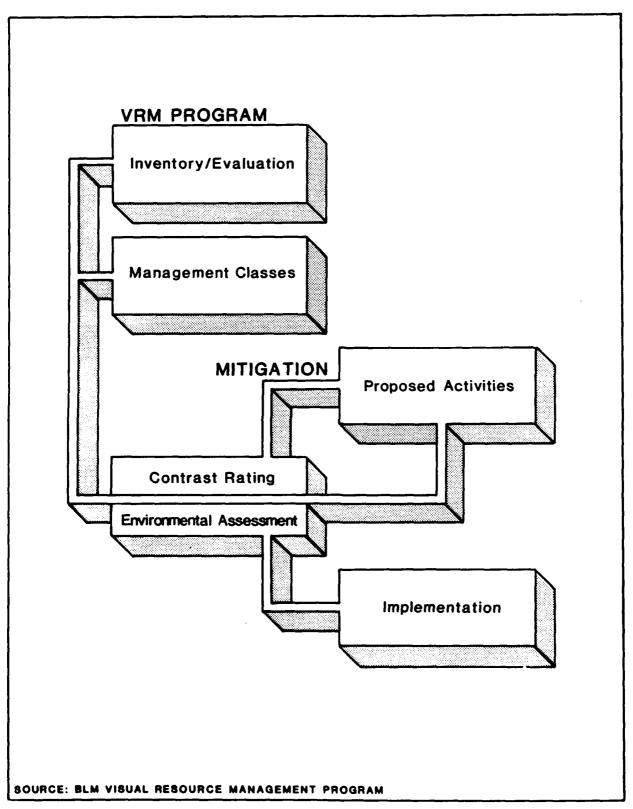
To assess the scenic resources and quality of the visual environment within the ROI, a modified version of the BLM Visual Resource Management system (VRM) was used.

The VRM program is an analytical process that identifies and sets objectives for the maintenance of scenic values and visual quality. The program is based on research that has established ways to assess the aesthetic qualities of a landscape in objective terms. The VRM program evaluates three major co-ponents which include scenic quality inventory/evaluation, visual resource management classification, and contrast rating.

The process that is followed in the VRM program is shown in Figure 2.5.3-1. Initially, an inventory is conducted to evaluate the visual resources within the ROI. The inventory/evaluation process consists of scenic quality assessment, use volume determination, and designation of viewing distance zones. Scenic quality assessment assigns a point system that rates the importance of specific landscape components, calculates values, and determines an overall scenic quality class rating for various landscape segments. This step identifies areas that warrant protection and opportunities for improvement.

Use volume examines the frequency of travel along major transportation routes and visitor days at recreational areas, and assigns a high, medium, or low rating. Viewing distance zones are field-determined.

VRM class designations are derived from an overlay process that combines the scenic quality, use volume, and viewing distance zones inventory/evaluation results to identify areas with a similar combination of factors. These classifications serve as overall management objectives to visual resource values and describe guidelines for acceptable levels of modification to the basic elements of the landscape. The classifications range from unique areas, such as wilderness or wild and scenic rivers, where few man-induced activities are acceptable (Class I), to areas where the natural character of the landscape has been disturbed to the point where rehabilitation is necessary (Class V).



VRM PROCESS

FIGURE NO. 2.5.3-1

- 2.6 Existing Environmental Conditions
- 2.6.1 Land Use
- 2.6.1.1 Urban Land Use and Planning
 - 2.6.1.1.1 Cheyenne, Wyoming

2.6.1.1.1.1 Urban Land Use

The following section describes existing land use conditions and past trends for the Cheyenne Urban Area.

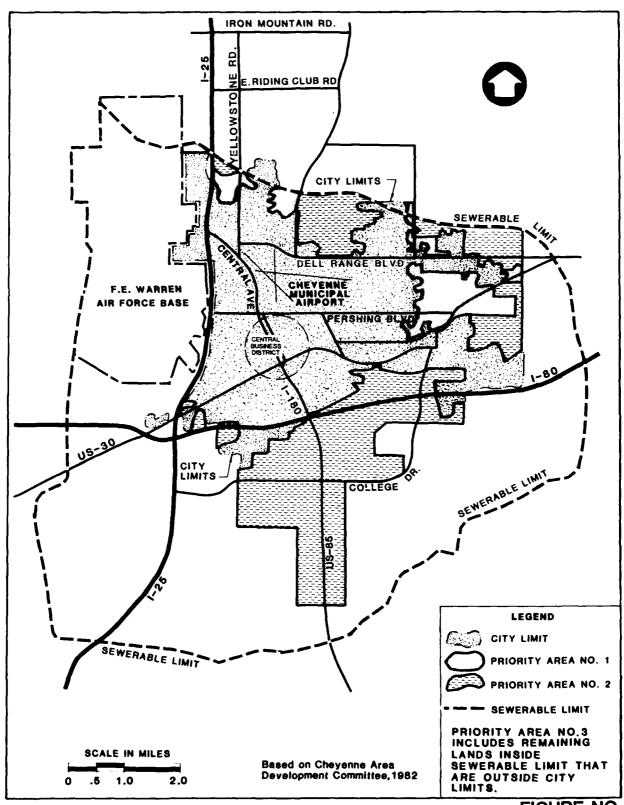
Introduction. The growth and development of Cheyenne is linked with westward expansion of the United States. In the late 1860s, the Union Pacific Railroad selected Cheyenne as the site for a terminal and staging area prior to extending their rail lines through the Laramie Mountains. By the end of 1867, Cheyenne had grown to around 6,000 persons. In 1870, after railroad construction moved west, only 1,450 persons remained.

Steady growth occurred following increasing dependence on the railroad throughout the West. Cheyenne functioned as a center for trade and commerce for the agricultural and ranching concerns in the region, and as a political center for the state, becoming the territorial capital in 1869 and the state capital in 1890, following statehood. Cheyenne's growth has been relatively steady since statehood.

In the early 1960s, the federal government decided to base a large number of intercontinental ballistic missiles in the open prairie around Cheyenne. Cheyenne served as the economic, social, and logistical center for this intense construction effort. Following completion of the project, the local labor force took 15 years to reach the levels achieved during the peak construction period.

Recent population growth in Cheyenne has not reflected the "boomtown" growth experienced in the coal mining and oil producing areas of the state. Between 1970 and 1980, the city of Cheyenne experienced a 14.6-percent increase in population, contrasted with a statewide growth rate of 41.3 percent. Wyoming has been impacted by rapid growth in energy development, but the majority of this growth has occurred in the south-central and central portions of the state. For example, Green River, Rawlins, and Rock Springs experienced growth rates of 205 percent, 47 percent, and 67 percent, respectively, between 1970 and 1980 (U.S. Department of Commerce 1981d).

Cheyenne and Laramie County have adopted an annexation policy which establishes priority areas for lands proposed for annexation to Cheyenne, and delineates policies to be followed in conjunction with comprehensive plans and land development regulations to control the rate and quality of growth in the urbanized area. Figure 2.6.1-1 shows the Cheyenne urban service area, which contains the city of Cheyenne and the three priority areas designated for future annexation. In general, city boundaries would need to be reached before land would be considered for annexation.



CHEYENNE URBAN SERVICE AREA

FIGURE NO. 2.6.1-1 Figure 2.6.1-2 shows generalized land uses in the Cheyenne area. Table 2.6.1-1 shows estimated acres of developed land by land use categories for a 42-sq mi area including the city of Cheyenne, South Cheyenne, and additional developed land adjacent to Cheyenne. The land use acreages are planimetered from a 1982 land use survey map prepared by the city. Figure 2.6.1-3 shows this 42-sq mi area in relation to Cheyenne city boundaries and the Cheyenne Urban Area. Land use by individual square mile sections is presented in Table 2.6.1-2.

Residential. Residential use comprises the greatest portion of developed land, approximately 42 percent. A number of residential subdivisions have been annexed to Cheyenne in recent years, but still remain partially undeveloped, primarily due to development costs and utility constraints. Annexation has created pockets of county land within city boundaries, particularly in the east and north. This makes it difficult to provide services efficiently and can result in inconsistent development standards between City and County lands. The City is proposing to provide incentives to encourage infill of the Sunnyside and North Cheyenne areas and has already completed master plans for improvements to these neighborhoods.

Increased development of ranchette-type homes on 2.5 acre lots has occurred north of the current city limits. Much of this land is located beyond the urban service area so that homes must be individually serviced by well and septic systems. These systems could cause groundwater contamination in the future; cumulative growth effects are being monitored.

The boundaries of the urban service area (Figure 2.6.1-1) are roughly defined by a ridge at the 6,200-foot elevation. Wastewater gravity flow is possible within the area but beyond it pumping would be required. The urban service area identifies those lands for which the City could provide services if land is annexed in the future.

Growth has been mostly to the north and east, with newer custom homes in the northwest and tract homes either in the northeast or southern parts of town. Multifamily development has occurred mostly in the northeast and northwest. Mobile home development is primarily found in South Cheyenne along U.S. 85 outside the city limits.

Commercial. Retail and office commercial land uses comprise 7 percent of developed land. Typical of many medium-sized cities that can support only a limited variety of commercial development, Cheyenne loses retail purchasing dollars outside the local area. A weekend shopping trip to Denver or Fort Collins is common for many households. Military personnel living both on and offbase generally make significant amounts of retail purchases onbase, resulting in further loss to the private local economy.

One local developer estimated that there was a large amount of unmet demand for retail commercial purchases in Cheyenne until the 500,000-square foot Frontier Mall, the 275,000-sq ft Cheyenne Plaza Mall, and a new K-Mart opened. Both malls were built by out-of-state developers. Signs of some overbuilding are evident. Two 40,000-sq ft retail properties, which formerly housed a supermarket and a discount store, are currently vacant. The existing ratio of 17 acres of commercial land per 1,000 persons is much higher than the recommended standard of 1.75 acres per 1,000 persons (Nez 1961) without

LAND USE IN THE CHEYENNE URBAN AREA

FIGURE NO. 2.6.1-2

Table 2.6.1-1 LAND USE IN THE CHEYENNE AREA1, 1982

	Acres	Developed (Percent)	Acres Per 1,000 Persons ²
Single Family and Mobile Home Residential	6,211	41	105
Multifamily Residential	267	2	5
Commercial	1,005	7	17
Mixed Use ³	71	0	1
Industrial	807	5	14
Public and Semipublic	3,374	23	14
Parks	373	2	6
Open Space	831	6	14
Highway and Railroad Rights-of-Way	2,048	14	35
TOTAL Developed Land:	14,987	100	211
TOTAL Vacant/ Agricultural Land:	11,853		
TOTAL Land Use:	26,840		

Notes: 1 Represents a 42-sq mi area containing the city of Cheyenne, South Cheyenne, and adjacent areas for which existing land use maps are available. The category of public and semipublic uses includes 1,716 acres for portions of F.E. Warren AFB which are adjacent to the city of Cheyenne and approximately 800 acres for the Cheyenne Municipal Airport. These two areas are subtracted (leaving 858 acres) prior to calculating acres per 1,000 persons.

> Planning standards recommend 1.75 acres per 1,000 persons for commercial land, 12 acres per 1,000 persons for industrial land, 10 acres per 1,000 persons for public and semipublic land, and 6 acres per 1,000 persons for parks. This does not include streets which generally comprise from 20 to 25 percent of other developed uses.

- 3 Includes downtown Cheyenne.
- 4 Streets are included with other categories. Highway and railroad rights-of-way are figured separately.

Source: Cheyenne Area Transportation Planning Process 1982.

FIGURE NO. 2.6.1-3

TABLE 2.6.1-2 EXISTING LAND USE, AUGUST 1982 CHEYENNE AREA, 42-SQUARE MILE SECTIONS

Sq Mi Sections	Single Family Resi- dential	Multi- Family Resi- dentia	Comm-		Public and Semi- public	Parks and Open Space	Other (Highway and Railroad)		<u>Total</u>
47	306.1	4.5	7.3	0.0	6.5	0.0	53.2	258.8	636.4
48	381.7	0.0	15.5	0.0	8.8	0.0	0.0	234.2	640.2
51	411.0	0.0	0.0	4.7	0.0	0.0	0.0	224.3	640.0
60	0.0	0.0	0.0	0.0	593.6	46.4	0.0	0.0	640.0
61	69.8	37.5	31.4	0.0	230.0	220.8	44.1	9.7	643.3
62	248.6	18.8	55.2	0.0	139.1	28.9	0.0	145.5	636.1
63	0.0	0.0	72.2	0.0	3.1	0.0	0.0	557.4	632.7
64	275.7	40.0	8.0	0.0	18.8	0.0	0.0	300.5	643.0
65	348.2	0.0	20.3	7.4	0.0	0.0	0.0	263.5	639.4
74	0.0	0.0	0.0	0.0	622.6	17.4	0.0	0.0	640.0
75	136.9	9.1	1.9	0.0	245.1	206.9	38.5	1.6	640.0
76	147.0	2.5	11.8	0.0	398.0	80.1	0.0	0.6	640.0
77	232.5	8.2	27.0	0.0	241.7	0.0	0.0	114.3	623.7
78	0.0	0.0	0.0	0.0	181.0	459.0	0.0	0.0	640.0
79	301.8	8.8	50.5	20.6	13.8	0.0	10.7	233.0	639.2
80	266.3	6.8	17.7	9.0	18.3	0.0	41.0	289.3	648.4
89	156.0	3.6	11.6	11.5	214.9	2.4	185.9	47.6	633.5
90	266.0	18.0	82.4	39.3	121.1	3.7	21.5	14.1	638.2ª
91	278.1	27.3	110.6	1.3	13.2	45.8	162.2	7.6	646.1
92	339.8	17.8	95.1	0.0	45.6	6.6	52.4	85.9	643.2
93	343.5	15.9	61.7	0.0	22.4	4.1	83.9	120.9	652.4
94	88.9	13.3	0.0	0.0	0.0	0.0	34.4	514.9	651.5
102	3.7	0.0	43.0	6.7	67.3	0.0	90.8	427.9	639.4
103	10.2	0.0	94.3	147.1	6.8	42.1	207.2	132.3	640.0
104	148.1	24.4	33.6	7.4	9.5	19.8	183.7	230.3	656.8
105	225.0	1.4	40.3	142.1	16.7	18.4	50.1	139.8	633.8
106	82.1	2.1	1.9	22.5	0.0	0.0	113.6	420.0	642.2
107	12.4	0.0	0.0	107.1	0.0	0.0	230.9	279.8	630.2
108	6.4	0.0	0.0	31.8	0.0	0.0	108.1	473.6	619.9
117	1.9	0.0	0.0	88.1	0.0	0.0	93.5	458.4	641.9
118	182.4	1.5	0.8	12.4	36.3	1.4	21.9	375.7	632.4
119	247.8	1.7	54.8	6.1	2.0	0.0	14.0	330.3	656.7
120	59.8	0.0	2.4	25.8	98.1	0.0	0.0	438.4	624.5
131	0.0	0.0	0.0	0.0	0.0	0.0	57.6	578.4	636.0
132	177.1	1.3	5.0	6.3	0.0	0.0	0.0	428.6	618.3
133	209.7	1.4	36.3	105.6	0.0	0.0	14.1	272.4	639.5
147 160	49.9	0.0	12.0	3.9	0.0	0.0	36.3	538.5	640.6
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	640.0	640.0
161 174	0.0 130.0	0.0	0.0	0.0	0.0	0.0	37.3	602.7	640.0
175		0.0	0.0	0.0	0.0	0.0	0.0	510.0	640.0
1/3	66.3	0.0	0.0	0.0	0.0	0.0	27.7	546.0	640.0
TOTAL	6,210.7	266.7	1,004.6	806.7	3,374.3	1,203.8	2,047.6	11,853.8	26,840.0

Note: a Total for commercial includes 71.3 acres of mixed use in the downtown area.

including any portion of the 71 acres of downtown property, some of which would be classified as commercial. However, the latter ratio only relates to demand for neighborhood and community shopping centers and does not account for office commercial uses.

Most of Cheyenne's office property is located downtown where there is good access to city, county, and state government buildings. Outlying office properties generally offer more parking and lower leasing costs per square foot than downtown. There has been some new office development in outlying areas and along major arterials. Cheyenne, because it is the state capital, would have more office development than the typical community, which would also tend to boost the existing commercial ratio. The existing ratio also includes streets, which are excluded in the recommended standard.

Industrial. Industrial development comprises 5 percent of the land area under consideration. Major industrial development has occurred in connection with the Union Pacific Railroad, AMF Wyott (food service equipment), Husky Oil Refinery, Wycon Chemical (fertilizers), and other manufacturers in the area. There are two industrial parks in the Cheyenne area and additional industrial land outside the parks. Rocky Mountain Industrial Park consists of 200 acres and Harper Valley Industrial Park, 60 acres. Both parks have available space. There is also a 45,000-sq ft warehouse building available downtown. There is some reported demand for small industrial shop/warehouse facilities such as those used by plumbers. The existing ratio of 14 acres of industrial land per 1,000 persons is close to the recommended standard of 12 acres per 1,000 persons if streets are netted out. The City of Cheyenne is currently funding a study to examine commercial and industrial development in detail.

Public and Semipublic. Government facilities and semipublic uses such as churches and hospitals account for 23 percent of developed land. (This includes 1,716 acres on F.E. Warren AFB.) The largest parcel of land containing government facilities is the 800-acre Cheyenne Airport in the northern part of the city. As the state capital, Cheyenne is also the location of many state offices and facilities. Major new government facilities include a civic auditorium, city and county building, and state building. Excluding F.E. Warren AFB, the Cheyenne Airport, streets, and state offices, the existing ratio of 14 acres per 1,000 persons is close to the recommended standard of 10 acres per 1,000 persons.

Parks and Open Space. There are an estimated 1,204 acres of parks and open space in the Cheyenne Urban Area. These categories of land use include municipally operated parks and recreation areas and open space used for flood control or other public purposes. Included are several developed parks with lakes, two public golf courses, a country club, ballfields, and additional small park spaces and parkways. There are currently 373 acres of parks. Parkland deficiencies exist in a number of neighborhoods. The local goal is to achieve at least 6 acres of parkland per 1,000 people. (See Section 2.6.2.2.1.2 for more detailed analysis of Cheyenne parkland.) Standards for open space areas are not generally applicable on a communitywide basis but relate more to site-specific needs for a single project.

Annexation and Subdivision Trends. The City of Cheyenne added 2,450 acres (3.83 sq mi) of land area between 1970 and 1982, an increase of 31.8 percent (Table 2.6.1-3). The vast majority of these annexations has resulted in the creation of residential lots. The annexations have all occurred north and east of the city limits, except for a few smaller annexations on the south side near the intersection of Interstates 25 and 80. Leapfrog development has occurred where pockets of county land have been created due to annexation.

South Cheyenne. South Cheyenne (generally the area south of Interstate 80 and east of Interstate 25 served by the South Cheyenne Water and Sewer District) contains a concentration of mobile home uses, single-family housing, and some industrial development bordering U.S. 85. Although South Cheyenne is designated as a Priority 2 annexation area in the City's annexation policies, local officials indicate no plans to annex the area in the near future. Further mobile home development could be compatible in South Cheyenne because of the existing land use and character of the area, availability of land, and appropriate zoning. On the other hand, there may be opposition to further concentrations of mobile homes in this area. Approval of specific development proposals would depend upon proper siting, design, and utility access, particularly in light of a recent moratorium on water and sewer taps. Several mobile home parks were in the final approval stage at the time the moratorium was issued.

Vacant Land. Availability of vacant land does not appear to be a constraint to development in the Cheyenne area. Table 2.6.1-4 presents vacant land by zoning category for the city of Cheyenne. Much of the vacant land is located in existing single-family subdivisions that have been annexed since 1971 and are zoned R-3 (high density residential). R-3 and C-2 (floodway fringe zone) are the only zones which allow mobile homes; a conditional use permit must be granted. Land previously platted for single family use would not generally be available for mobile homes because of incompatibility with adjacent uses and existing neighborhood densities.

The R-2 (medium density residential) zone provides for the same uses as R-3, i.e., single-family dwellings as a principal use and two-family, townhouse, multifamily dwellings, and mobile home parks as a conditional use. However, the R-2 zone requires larger lot sizes than R-3. The purpose of the R-4 zone is to provide for high-density apartment, townhouse, and condominium development.

The vacant land figures in Table 2.6.1-4 represent vacant land without analysis of development constraints. Vacant land in floodplains would reduce developable acreage by approximately 150 acres or at least restrict the types of development that could occur. Excess slopes (greater than 11 percent) could reduce the developable acreage in and around the city by as much as 200 to 300 acres.

Table 2.6.1-3
CITY OF CHEYENNE ACRES ANNEXED 1970 TO 1982

Year	Total Acres	Change (Acres)	Percent Change
1970	7,695.46	-	-
1971	7,815.44	119.98	1.6
1972	7,952.21	136.77	1.8
1973	8,182.57	230.36	2.9
1974	8,250.19	67.62	0.8
1975	8,348.89	98.70	1.2
1976	8,589.41	240.52	2.9
1977	8,743.61	154.20	1.8
1978	9,274.59	530.98	6.1
1979	9,659.18	384.59	4.1
1980	9,772.70	113.52	1.2
1981	10,019.06	246.36	2.5
1982	10,144.35	125.29	1.3
TOTAL:		2,448.89	31.8

Source: Cheyenne Area Development Committee 1982 and CLCRPO 1983.

Table 2.6.1-4

VACANT LAND BY ZONING CLASSIFICATION CITY OF CHEYENNE, 1982

B-1	162.84
B - 2	50.22
B-3	10.61
R-2	45.60
R-3	824.55
R-4	83.94
G-1	12.60
I-1	288.33
I - 2	8.90
<u>A-1</u>	6.88

TOTAL: 1,494.47

Source: Cheyenne Area Transportation Planning Process 1982. Vacant land planimetered from existing land use maps.

Table 2.6.1-5 shows vacant platted residential lots in Laramie County, derived from records maintained by the Laramie County Assessor. This information was collected as part of a housing and land survey completed by URS-Berger in November 1983. (See Jurisdictional EPTR Housing and Land Survey, Appendix B for more information.) Of the 7,741 vacant lots identified, 2,472 (32%) are located within the city of Cheyenne. Approximately 77 percent of the vacant lots within the city are either presently served or serviceable through infill or line extensions. The remainder would require booster pumps. These are generally located in subdivisions immediately within the northern city limits above the 6,200-foot elevation. The average size of serviceable lots is about one-third of an acre.

Table 2.6.1-5

VACANT PLATTED RESIDENTIAL LOTS IN LARAMIE COUNTY

OCTOBER 1983

	No. of Lots	% of Total
City of Cheyenne	2,472	32
Zoned Area Outside City	2,386	31
City/County Periphery	706	9
Unzoned County	2,177	_28
TOTAL:	7,741	100

County fringe areas on the north and east side of Cheyenne, containing approximately 400 acres of vacant land, have been assigned first priority for future annexation. Priority 2 annexation areas in north and South Cheyenne contain over 6,000 acres of land, much of which comprises large parcels of vacant land that could be easily assembled. Priority 3 areas, mainly located on the southern border of the urban service area, are almost entirely vacant and contain close to 20,000 acres of land. Priority areas are not necessarily slated for annexation in the immediate future and would require provision of services by the county, a developer, or other entities prior to development. Much of the land prioritized for annexation would not be annexed until city boundaries reach these areas.

2.6.1.1.1.2 <u>Development Plans, Policies, and Regulations</u>

This section describes the various land development controls in force in Cheyenne and Laramie County, and highlights those subjects particularly relevant to anticipated project-induced effects. These control mechanisms include such documents as comprehensive land use plans, zoning ordinances, and subdivision regulations or other documents with specialized intent such as annexation policies, that will need to be enforced, implemented, or otherwise administered as a result of development pressures from the project. Appendix A provides additional information on the planning functions and approval process carried out by the CLCRPO.

Cheyenne Area Development Plan. The Cheyenne Area Development Plan has been adopted by the Cheyenne City Council. The plan is organized into two sections: development policies and desired land uses. The policies describe various types of desirable development throughout the city and county zoned area, which includes lands approximately 5 miles beyond the city limits. Detailed policies are cited for the urban service area (discussed later in the annexation policy section). The desired land uses section describes detailed uses at a neighborhood scale. Development policies include:

- o Preservation of neighborhood character through protection from intrusion of incompatible uses and the requirement that new construction be compatible with existing structures to maintain neighborhood integrity.
- o Priority to the development of vacant or underdeveloped infill land within existing urban development over fringe area development which dilutes demand for urban services.
- o Planned unit development (PUD) to encourage high quality design and the orderly use of land. PUDs will encourage a mixture of residential types, complementary commercial uses, visually coherent development, and public amenities in exchange for increased density.
- o Urban residential development at urban densities with a consistent but varied housing mix, with services and facilities serving neighborhoods, minimization of traffic impacts through residential areas, and buffering from abrupt changes in density and use.
- Mechanisms to encourage higher occupancy rates in cural subdivisions that counter current patterns of dispersed development that strain County ability to provide services such as road maintenance, fire, and police protection.
- Support for mobile home dwellings in safe, convenient, and attractive living environments where necessary services such as police and fire protection, water supply, and sewage disposal can be provided. Mobile home parks are to be buffered from abrupt land use changes, include safe and accessible recreational space, and be designed to provide a safe and varied environment in regard to street layout and mobile home placement.
- o Encouragement of orderly land development to meet public facilities demand in a timely manner. A compact urban form effectively provided with public services, will be encouraged within the urban service area, that area that can be serviced by gravity flow.
- Maintenance of the agricultural use of land best suited for this purpose, thereby concentrating urban development in the urban service area.

The desired land uses section includes 47 mini-plans focused on neighborhoods. A great deal of land recommended for "planned residential development" is currently vacant or underdeveloped. Mobile home uses are identified in areas in the northeast and south parts of Cheyenne.

City of Cheyenne Annexation Policies. Adopted by both the Cheyenne City Council and Laramie County Board of Commissioners in 1982, this document defines the desired directions and priorities of urban growth for Cheyenne. It is an attempt to manage the direction and speed of growth of the city by presenting a positive tool rather than constrictive growth controls such as moratoriums or utility restrictions.

The Annexation Policies establish three major goals:

- To develop a compact city configuration;
- o To establish specific growth areas; and
- To encourage new development within existing city boundaries.

In order to ensure achievement of these goals, the document establishes three priority areas, describes their characteristics, and presents policies in the context of which proposed annexations within priority areas should be considered. It should be noted that in general annexation would not occur until city boundaries have reached land proposed for annexation.

Priority Area 1 generally includes enclaves and/or partial enclaves (at least 50% contiguous) which have demonstrated health and safety problems, are platted to urban densities, or which rely on city infrastructure for public services. These lands can be readily annexed with little or no impact on the City's capacity to deliver the full range of public services at standards no less than the average level provided in the remainder of the city.

Priority Area 2 includes lands whose boundaries are at least 50 percent contiguous and where changes in land use have been dynamic as opposed to static, i.e., transitional areas. Prior to annexation, developed areas shall be studied in-depth relative to current conditions and recommendations made for redevelopment. Undeveloped areas should be developed in accordance with the provisions of the adopted land use plan. Annexation will take place only if it can be demonstrated that implementation of the policies and standards defined in the land use plan will be facilitated by the annexation. The City and County will formulate minimum development standards prior to annexation.

Priority Area 3 includes the remaining lands within the Cheyenne urban service area, and is defined by that area within which gravity flow sanitary sewerage is available, generally below the 6,200 foot elevation which, in turn, defines the Dry Creek watershed. These annexations should only occur on a large scale where public improvements and services can be provided in a cost-effective manner. In general, annexations in Priority 3 areas will be discouraged. Consideration for annexation will be given only in two instances:

- When initiated by a public entity in the combined interest of the City and County in order to enhance the general health, safety, and welfare of the community; and
- When initiated by a nonpublic entity when demonstrated that lands currently in the city or in another priority area are not suitable for the proposed development, and that the proposed annexation will have significant benefit to the community.

Lands outside the urban service area can only be annexed if:

- o The proposed annexation is 40 acres or larger and a compact city configuration will be maintained;
- o Complete engineering plans for necessary water and sewer service are approved;
- o Capital expenditures for all public utilities and needed additional public services, equipment, and facilities have either been budgeted by the City or paid by the developer;
- o Lands currently in the city or in other priority areas are not suitable for the proposed development;
- Sewage treatment and water supply capacities are sufficient to service the city, the priority areas, and the proposed annexation; and
- o It can be demonstrated that infill and redevelopment goals will not be adversely affected as a result of the annexation.

Cheyenne and Laramie County Zoning Ordinance. The Cheyenne is Laramie County Zoning Ordinance was adopted in 1971 and revised in 1982 by the Cheyenne City Council and the County Commissioners. The ordinance encompasses the city and an unincorporated area of the county that extends approximately 5 miles in all directions from the city. The zoned area covers a total of 182 sq mi.

The following zoning categories are designated:

- B-1 Highway Business
- B-2 General Business
- B-3 Central Business
- R-1 Low Density Residential
- R-2 Medium Density Residential
- R-3 High Density Residential
- R-4 Apartment Zone
- G-1 Government/Civic Center Zone
- I-1 Light Industrial
- I-2 Heavy Industrial
- C-1 Floodway Zone
- C-2 Floodway Fringe Zone
- PUD Planned Unit Development
- A-1 Agricultural Zone

Residential uses are permitted in zones B-3, C-1, C-2, A-1, and G-1, as well as in R-1 through R-4. Mobile home parks are permitted as conditional uses in R-3 zones only. The minimum park size is 5 acres; however, the developer may build the park in phases if this is done according to a plan. Mobile homes are not permitted outside mobile home parks in the zoned area; they are permitted as principal uses in the C-2 Floodway Fringe Zone if the specific requirements of this zone are followed.

Minimum area requirements for single-family uses range from 5,000 sq ft to 7,500 sq ft depending upon the zone, while multifamily dwellings require a total minimum area of 7,000 sq ft to 12,000 sq ft and 500 sq ft to 1,000 sq ft per unit.

The Zoning Ordinance is currently being reviewed by the Zoning Task Force of the Cheyenne Area Development Committee and updated to make it more consistent with the Cheyenne Area Development Plan adopted in 1982. The charge to the Task Force is to create an ordinance that is consistent with the Cheyenne Area Development Plan in order to implement community goals. The Task Force hopes for adoption of a new ordinance by December of 1984; until that time, the present ordinance will continue to be used for quidance on land development.

Subdivision Regulations. The subdivision regulations, adopted by the Cheyenne City Council and Laramie County Commissioners in 1979, define a subdivision as the division of a tract or parcel of city or county land into three or more lots, plats, sites, or other divisions of land for the immediate or future purpose of sale or building development. Exemptions include the sale of parcels of 40 acres or larger, the sale of land for agricultural purposes, railroad rights-of-way, and state and county highway rights-of-way. The procedure for submission of plats includes a sketch plan (optional), preliminary plat, and final plat, with action taken by the Planning Commission, Board of County Commissioners, and City Council, as required.

Park fees or land in lieu of fees for residential subdivisions, including mobile home parks, are required by the City when land is annexed. The fee is presently \$450 per acre and is adjusted annually. The County requires a public facilities fee for residential subdivisions of \$40 per acre, which is also adjusted annually on the Cost of Living Index.

The City requires paved streets, curbs and gutters, sidewalks, and street lighting improvements for subdivisions within the city. Where densities equal or exceed three dwelling units per acre, the County requires paved streets. If a County subdivision meets City standards for paving, curbs and gutters, and sidewalks, reductions in rights-of-way are allowed.

In order to assure that all improvements are constructed, the City requires a guarantee of completion in the form of a bond or certified check. The County requires financial guarantees for the completion of drainage facilities within subdivisions. The existing subdivision regulations are generally adequate to handle additional growth.

Laramie County Comprehensive Land Use Plan. Wyoming law provides for the preparation of a comprehensive plan to promote "the public health, safety, morals, and general welfare of the unincorporated areas of the county." In 1978, the Laramie County Commissioners adopted a land use plan composed of a set of general policy statements. In 1982, a new comprehensive land use plan was adopted after an advisory committee appointed by the County Commissioners determined that the earlier plan "was too general to adequately deal with the growth issues currently being experienced in Laramie County."

The current plan consists of 18 sections dealing with specific development issues such as agricultural lands, water supply, mobile homes, scenic resources, and erosion control. Within each section, one or more policies are

identified to guide decisionmaking by developers and the County. These policies are supplemented by a set of land use management maps that display various land characteristics and constraints which determine the suitability of land for different uses.

Four development regulations have been proposed to carry out the plan. These include building standards, development standards, nuisance control regulations, and health standards for water quality control.

The policies of the comprehensive plan generally support an expressed desire to maintain Laramie County's agricultural character. The plan states that agricultural uses are a priority in the unzoned portions of Laramie County "and that approval of new subdivisions should be contingent upon demonstrated availability of services and lack of negative impacts on adjacent land uses." Industrial and commercial developers are required to show that any new project will not cause significant air quality degradation, will control adverse impacts on adjacent landowners, and will be located on platted land.

2.6.1.1.2 Wheatland, Wyoming

Existing Land Use. Wheatland, the county seat of Platte County, has historically grown as a result of agricultural development in the area. The "Wheatland Project," one of the most elaborate irrigation projects of its day, was begun in the 1890s and designed to irrigate 50,000 acres of farmland in the Wheatland area. Today, the Wheatland Irrigation District provides water for production of corn, beans, sugar beets, hay, and other crops. Wheat is the main dry land crop in the area.

From 1976 to 1982, the construction of the Laramie River Power Station 4.5 miles northeast of Wheatland resulted in population growth and associated development in the Wheatland area. Water and sewer lines and education facilities were expanded. Basin Electric, the power plant operator, guaranteed state loans for local improvements. Construction on the power plant peaked in 1979 when the area had approximately 7,000 residents. The current population is estimated at 4,520.

The older core area of Wheatland follows a linear pattern, bordering Interstate 25 on the west and the Colorado Southern Railroad on the east. The Central Business District (CBD) is centered to the east side of Wheatland. Recent growth has occurred primarily in the north and west areas of town. Table 2.6.1-6 shows estimated land use for Wheatland in 1983. (It also contains land use for Kimball, Pine Bluffs, and Chugwater.) Table 2.6.1-7 presents acres per 1,000 persons for these four communities. Wheatland has a large percentage of vacant land, over 50 percent of its land area.

In addition to the older housing in the core area, several newer subdivisions have been developed in fringe areas within town. Two new single-family subdivisions west of Interstate 25, containing over 100 lots, are partially developed. Black Mountain Village, a 468-space mobile home park developed by Basin Electric in the southwestern part of Wheatland, is largely unoccupied. An additional parcel of land adjacent to Black Mountain Village, originally designed for recreational vehicles, has been rezoned as a mobile home subdivision to allow for 1976 or newer mobile homes.

Table 2.6.1-6
EXISTING LAND USE IN OTHER COMMUNITIES, 1983

	Wheat	land	Kimb	pall_	Pine	Bluffs	Chugwa	ter
Land Use	Acres	<u>%</u>	Acres	<u>%</u>	Acres	<u>%</u>	Acres	<u>%</u>
Total Residentia	330.52	14.87	334.70	29,62	156.00	12.09	20.72	41.23
Single Family	220.02	9.90	288.45	25.53	143.62	11.13	17.09	34.01
Multifamily	45.25	2.04	28.75	2.54	6.13	0.48	1.25	2.49
Mobile Home	65.25	2.94	17.50	1.55	6.25	0.48	2.38	4.74
Commercial	28.10	1.26	136.77	12.11	63.00	4.88	2.17	6.31
Industrial	70.80	3.18	62.76	5,55	a	a	3.60	7.16
Public/Semipublic	c 99.73	4.49	86.38	7.65	34.00	2.64	6.40	12.74
Parks	33.70	1.52	21.00	1.86	8.00	0.62	N/A	N/A
Vacant	1,244.44	55.98	195.83	17.33	802.00	62.17	16.36	32.56
Railroads, High-	•							
ways, Streets	415.71	18.70	292.41	25.88	227.00	17.60	N/A	N/A
TOTAL:	2,223.00	100.00	1,129.85	100.00	1,290,00	100.00	50.25	100.00

Notes: N/A Not available.

Industrial figures for Pine Bluffs are included within the Commercial category.

Table 2.6.1-7

LAND USE PER 1,000 PEOPLE, 1983
OTHER COMMUNITIES

Land Use	Wheatland	Kimball	Pine Bluffs	Chugwater
Total Residential	73.12	106.59	139.66	90.09
Single Family	48.68	91.86	128.58	74.30
Multifamily	10.01	9.16	5.49	5.43
Mobile Home	14.44	5.57	5.60	10.35
Commercial	6.22	43.56	56.40 ^a	13.78
Industrial	15.66	19.99	a	15.65
Public/Semipublic	22.06	27.51	30.44	27.83
Parks	7.46	6.69	7.16	0.00
Vacant	275.32	62.37	717.99	71.13
Railroads, Highways,		·		, = •
Streets	91.97	93.12	203.22	N/A

Note: a Industrial figures combined within the Commercial category.

A new single-family subdivision north of town containing 30 plus lots is reportedly 70-percent vacant and another subdivision south of town, containing approximately 100 lots, is 20-percent vacant. Although 12 apartments (four-plexes) were recently developed in the north part of town, relatively little land has been developed for multifamily housing. Mobile homes, located in four mobile home parks and on individual scattered lots, provide the major

alternative to conventional site-built housing. The largest mobile home park other than Black Mountain Village contains 102 spaces. Some concentrations of mobile homes have been located adjacent to the railway, resulting in concern about whether these areas are suitable for residential development.

There are three concentrations of businesses outside of the CBD. These generally follow the north and south approaches to town: north of the CBD along Ninth Street, north along 16th Street, and in the vicinity of 16th and South streets on the south approach to town. Dispersal of business development to locations outside the CBD has caused some concern about the ability to maintain the vitality of the downtown area, historically a shopping destination for the entire county.

Industrial development has primarily occurred along 16th Street (some light industrial), along the railroad tracks east of town, and northeast of town where Basin Engineering operates a marble quarry. The Laramie River Power Station is located on unincorporated county land northeast of town.

The largest acreages of land in public use include the nine-hole Wheatland Golf Course in the south part of town; Lewis Park, southeast of downtown; the Platte County Fairgrounds; and Wheatland Airport in the east part of town. Additional parklands are contained in North City Park and adjacent to Black Mountain Village. There are two elementary schools, one junior high school, and one senior high school in town. The newer elementary school was built adjacent to Black Mountain Village in anticipation of increased enrollment from power plant construction. The other schools are located in the older part of town.

Wheatland has adopted adequate land use regulations to control future growth, including a comprehensive plan, zoning ordinance, and subdivision regulations. Preliminary and final plats are reviewed by both the Planning Commission and Town Council. New construction is inspected by the local building inspector, who also serves as the city planner.

The following list summarizes existing development trends and land use constraints that have been identified for the Wheatland area. The list is based on interviews with local officials and a review of existing land use plans for the city of Wheatland and Platte County.

- Recent expansion of Wheatland has occurred primarily in the north and west areas of town. These areas have access to utilities and contain substantial amounts of developable land within the city limits. This area is favorable for future residential development because of new commercial development nearby, a new elementary school, and existing mobile home park facilities that have unused capacity.
- o Areas to the east and southeast of town have limited development potential due to physical constraints caused by the railway, flood-plains, limited access to utilities, and location of the airport, cemetery, and other public facilities.
- o The population of the town of Wheatland more than doubled between 1970 and 1980. Since 1980, the population has decreased due to

completion of power plant construction. This has left some developed areas unoccupied or underused and available to serve future population growth. Wheatland has adopted land use regulations that are adequate to control future growth.

2.6.1.1.3 Kimball, Nebraska

Kimball is the county seat and largest town in Kimball County. The first settlements in the Kimball area occurred in 1868 when the Union Pacific Rail-road established tracks through the county. By 1885, the city of Kimball had become the trading hub of the local agricultural area. The city grew rapidly from 1900 to 1920, primarily due to homesteading and the formation of the Kimball Irrigation District which allowed more intensive use of farmland.

Since the 1950s, oilfield services and equipment have grown as a local industry. In 1961 Kimball was the primary oil-producing county in Nebraska. Kimball has also served as a staging area for Atlas and Minuteman missile deployment and various upgrades, resulting in a broadening of the local industrial base from agriculture and causing periodic population swings. Between 1950 and 1960, Kimball's population jumped from 4,283 to 7,975. In 1970 the population was 3,680, declining an additional 15 percent from 1970 to 1980 to 3,120.

Several man made and topographic features have contributed to the physical development pattern of Kimball. The city was originally laid out in grid fashion by the Union Pacific Railroad. Early development centered on either side of the railway. Highway 30 (east-west) and Highway 71 (north-south) divide the town into four quadrants. Interstate 80 is located at the south end of town. Although a portion of Kimball extends south to Interstate 80 along Highway 71, the largest proportion of residential development is bounded on the south by the Kimball Canal. Table 2.6.1-6 shows land use in Kimball for 1983, based on updating a 1976 land use survey with 1983 housing counts and annexation data. The area of the town has remained constant, although there has been a small amount of residential construction. Vacant land comprises 200 acres or 17 percent of the total.

The area of Kimball north of the railway is one of the oldest parts of the city. It contains a mixture of smaller houses and mobile homes on single lots. The streets in this area are not paved and lack curbs and gutters. Newer homes are generally located south of Third Street. Many of these were built during the "oil boom" of the 1950s and 1960s. Newer subdivisions are located in the southeast and southwest quadrants. Unincorporated Kimball County contains seven platted subdivisions; all but one are immediately outside the city limits. These areas contain 121 lots, with a 40-percent average occupancy rate.

During Minuteman construction, Boeing developed a mobile home park east of town. The park was designed to accommodate more mobile homes than were ultimately needed. As a result, there are a number of utility hookups on grass-covered areas lacking pads. There are also some vacant pads and some occupied by mobile homes. Mobile Village Park, a mobile home subdivision in northeast Kimball, has 40 by 100 foot lots for sale at \$4,000 per lot. For seasonal tourist travel, Kimball has a KOA campground which provides temporary hookups for recreational vehicles.

The CBD is located south of the railway along Chestnut Street and south to Third Street; it extends 1 to 2 blocks on either side of Chestnut. According to the Kimball-Banner Chamber of Commerce, there have been three recent business closures: Gambles (department store), Coast-to-Coast, and Western Auto (both hardware stores). The Chamber is working with local businesses to help them meet increasing competition from out-of-town shopping areas such as Cheyenne's Frontier Mall.

In addition to the CBD, other retail businesses and highway-service businesses are located along the two approaches to town, Highways 71 and 30. The interchange at Interstate 80 and Highway 71 at the south end of town has attracted highway-oriented services.

The area between Third Street and the railway, on either side of the CBD, is in transition, with older multifamily residences and other residential uses mixed with commercial and industrial uses. As land in this area becomes more valuable, the area will probably become largely commercial with residential uses concentrated south of Third Street.

Industrial uses, including oil and agricultural equipment manufacturers and services, are generally located adjacent to the railway. Local industrial employers include companies such as EK (pipe threading), Accessory Sales (industrial and farm engines), and George Risk Industries (electronic switches, keyboards, burglar alarms). Forward Kimball Industries, Inc., an outgrowth of the Chamber of Commerce, promotes industrial development in Kimball. Forward Kimball Industries, Inc. has developed a 22-acre industrial park in northeastern Kimball and has sold all available tracts.

Public facilities consume additional land. The 270-acre Four Winds Recreation Area (known locally as the Parks and Recreation Facility) southeast of Kimball contains a golf course, baseball diamond, archery range, trap shooting, tennis court, and playground. Some housing development has occurred adjacent to the recreation facilities and more can be expected to be attracted to this location. Within the city boundaries are two elementary schools, a junior high school, and a senior high school. Declining enrollment may result in consolidation of the two elementary schools. City parkland is primarily located in the southeast quadrant of the city, with the largest amount adjacent to the county fairgrounds.

The following trends and constraints typify Kimball:

- Newer residential development has generally located in the southeast and southwest fringes of town. Although the Kimball Canal is a slight constraint to southward expansion of residential development, it does not preclude development. A "finger" of city land currently extends southward along Highway 71 to the Interstate 80 interchange. Future residential development will probably continue to fill in the areas south of existing residential development toward Interstate 80.
- Some developable land currently exists within city limits. Utility access should not be a constraint to development of these areas.

A lagging economy and depressed oil industry has caused more housing vacancies than would normally occur in Kimball. In addition, population declines and recent business closures point to some underutilization of developed land and facilities.

Kimball Comprehensive Plan. The City of Kimball has a comprehensive plan, subdivision regualtions, and a zoning ordinance. The zoning and subdivision regualtions are enforced within 1 mile of the city limits. Kimball County has not adopted any of the standard land use controls. Controls in Kimball generally appear to be adequate to control growth.

2.6.1.1.4 Pine Bluffs, Wyoming

The town of Pine Bluffs is located on the Wyoming-Nebraska line and is bordered by Interstate 80 on the south, and U.S. 30 and the Union Pacific Railroad on the north. Table 2.6.1-6 shows existing land use for Pine Bluffs, based on interpretation of 1983 aerial photos. The total area of the town, including vacant land, is approximately 1,290 acres or 2 sq mi. Of this amount, 62 percent (800 acres) is vacant, much of it unplatted. The city limits extend out a considerable distance from the developed area. The population of Pine Bluffs is estimated at 1,117 for 1983.

Table 2.6.1-8 presents a listing of vacant platted residential lots within Pine Bluffs that are either already served with water and sewer or would be serviceable by the town. This area comprises 116 lots and 62 acres, indicating substantial amounts of land available for future residential development.

The Pine Bluffs zoning ordinance provides for two residential zoning categories, and business and industrial zones. Residential Zone A requires a 7,500-sq ft minimum lot for a single-family unit, while Residential Zone B requires a 6,000 sq ft lot. No multifamily housing is allowed in Zone A. Mobile homes on single lots are allowed only in the older area of town, and the mobile home occupant must also own the lot. A 100-space mobile home park located in the east part of town is mostly vacant.

Pine Bluffs has not adopted a subdivision ordinance and there is some local concern that contractors cannot be required to provide necessary improvements for new residential construction. Building permits are approved by a four-person review board, with final approval by the Town Council. The town does not currently have a building inspector. Local officials report that variances are granted frequently because the zoning ordinance needs to be updated. A comprehensive plan, comprising policies and objectives for future development, was adopted in 1978.

2.6.1.1.5 Chugwater, Wyoming

Chugwater is located 46 miles north of Cheyenne and is bordered on the west by Interstate 25 and on the east by Highway 87, the Burlington Northern Railroad, and Chugwater Creek. During the 1970s, the population of Chugwater increased due to the construction of the Laramie River Power. Plant in nearby Wheatland. Following the construction of the power plant, Chugwater's population declined from 285 persons in 1980 to 198 persons in 1983.

Table 2.6.1-8
PINE BLUFFS SUBDIVISIONS WITH VACANT LOTS¹
1983

Subdivision	Location	Year Platted	Total Lots Platted	Total Area Platted (ft) ²	Total Vacant Lots	Total Vacant Area (ft ²)	Average Vacant Lot Size
Carpenter Addn.	N.E.	9-18-19	4	1,165,666	⊷	393,782	393,782
Pine View Addn.	3 Z	9-26-73	15	181,208		3,500	3,500
Sherard Hubbs	3.	7-25-11	22	104,817	m	45,700	15,233
Simkins Addn.	S.E.	3-28-74	33	1,292,435	23	699,875	30,429
Simkins Black	N S.E. S.E.	8-10-69	95	919,037	62	703,732	8,908
Wilhelm Addn.	S.W.	3-21-75	11	976,615	6	853,340	94,816
TOTAL:			180	4,639,778	116	2,699,929	N/A

Note: 1 All vacant lots identified are either served or serviceable with water and sewer.

Table 2.6.1-6 presents Chugwater land use for 1983, based on updating a 1976 land use survey with 1983 aerial photos. Residential land use represents 83 single-family units, 10 multifamily units, and 10 mobile homes. Residential use in Chugwater are located mostly between Third and First Streets, and industrial uses between First Street and the railroad tracks. Approximately one-third of Chugwater's land is vacant. The Chugwater Comprehensive Plan recommends developing vacant land within platted residential areas in town prior to expanding growth outside the platted area. The plan identifies two areas for future residential growth: northeast of town and south across County Road 313, the access road to town. Recent population declines indicate some existing capacity in developed uses.

Chugwater has a zoning ordinance, but no subdivision ordinance. Building permits are issued by a member of the Town Council. Building inspections are conducted by the local fire marshal and a state-licensed electrician.

2.6.1.2 Rural Land Use and Agriculture

Within the total area covered by the 6-county ROI, 429,000 acres (7%) are consumed by irrigated agriculture, 1,125,000 acres (19%) are devoted to dry farmland, and 3,986,000 acres (67%) are utilized as rangeland $(Table\ 2.6.1-9)$. The major areas of concentrated farming activity are located around Wheatland, in the Goshen Hole area, along the North Platte River corridor from Torrington to Scottsbluff, and in eastern Laramie County (Figure 2.6.1-4).

Rangeland and Ranching Operations. Agricultural land usage in rural regions tends to be predominantly rangeland for livestock grazing. Northern Goshen County consists of approximately 90 percent rangeland, and southern Goshen County and Laramie County are approximately 67 percent rangeland (SCS 1971, 1981.) Kimball County has 25 percent of its land area devoted to native rangeland (SCS 1962). The rangeland in the ROI is primarily short-grass prairie with an estimated average carrying capacity of 0.34 animal unit months (AUM) per acre. Ranching operations in the area typically consist of cow-calf operations. Beef production contributes approximately 70 percent of the total agricultural income in the ROI, based on 1979 information (U.S. Department of Commerce 1979). Continuous grazing is the most commonly employed pasture management system, with more intensive rest-rotation grazing systems used to a lesser extent (SCS 1983). Ranch operators typically utilize Hereford and Angus crosses; use of other breeds is limited (SCS 1983, Keech and Bentall 1982).

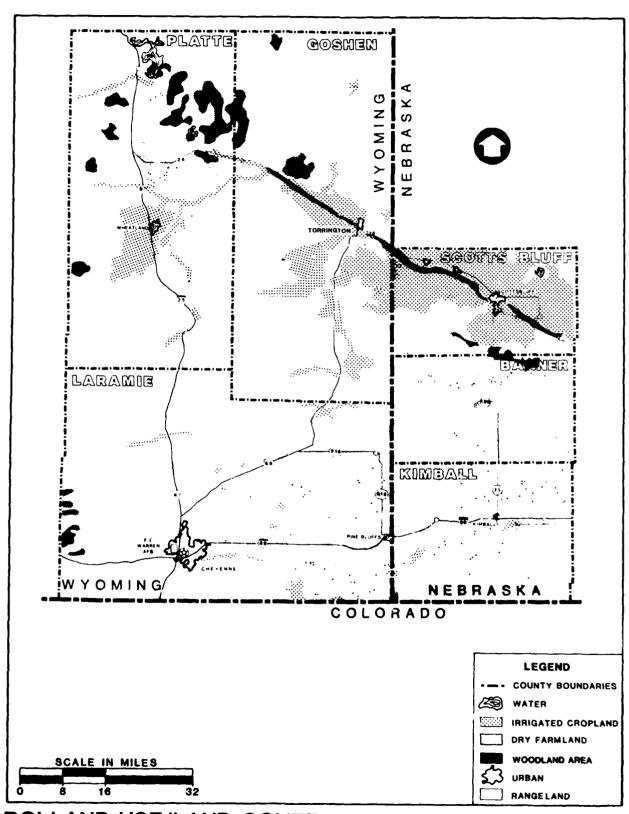
Cash Crops. Winter wheat is the principal cash crop in the region, providing the largest share of cash income and occupying the greatest land area for farming. A variety of other crops are grown in the region, but allocation of land to a given crop from year to year is based on a number of factors associated with each crop, including suitability of soil, current market price, cost and availability of water, fertilizer, machinery, and labor. Major management concerns for agricultural producers include water conservation and erosion control (SCS 1962, 1968, 1971, 1981).

The major portion of cropland, approximately 19 percent of the ROI, is farmed without irrigation. The primary crop, winter wheat, is farmed on a wheat/fallow system. In any given year, one-half of the land allocated to winter wheat lies fallow. Yields for winter wheat vary according to soil productivity,

Table 2.6.1-9 RURAL LAND USE

County	#Farms	Acres in Farming	Average Farm Size	Acres Dryland	Acres Irrigated	Acres in Pasture/ Range	Total Cropland & Pasture/Range
Goshen	728	1,308,690	1,798	170,256	109,052	1,004,560	1,283,868
Laramie	531	1,616,476	3,044	267,089	44,889	1,292,854	1,604,832
Platte	429	1,295,748	3,020	135,262	65,112	1,074,456	1,274,830
Banner	213	410,239	1,926	154,615	21,139	228,876	404,630
Kimball	370	560,793	1,516	340,643	21,892	181,845	544,380
Scotts Bluff	1,078	460,566	427	56,891	166,778	203,438	427,107
T0TAL:		5,652,512		1,124,756	428,862	3,986,029	5,539,647

Source: U.S. Department of Commerce 1981a, 1981b.



ROI LAND USE/LAND COVER

FIGURE NO. 2.6.1-4

annual precipitation, and management practices, but typical yields within the region range from 9 to 45 bushels per acre (SCS 1962, 1968, 1971, 1981). Other dry land crops produced include oats, barley, millet, sorghum, safflower, and corn.

Irrigated farming comprises approximately 7 percent of the ROI. Irrigation methods include both furrow irrigation and center pivot systems. Crops grown on irrigated farmlands include corn, field beans, wheat, oats, barley, alfalfa, potatoes, safflower, and sugar beets (SCS 1962, 1968, 1971, 1981).

Agricultural Management Activities. This section describes the various agricultural management activities which are associated with anching and farming operations, particularly with respect to marketing, harvesting, and the need for local access to facilitate these operations.

Ranching practices in the area consist of cow-calf operations, with steers and some heifers going to market in the fall, although some movement to markets may occur throughout the year. Wyoming ranching and livestock practices differ from Nebraska's in that Wyoming is an open range state, which allows a rancher to leave his range holdings infenced. Cattle are typically trucked to market by way of county roads and state highways. Cattle herds are taken off summer pastures in the fall, and are either fed hay through the winter or placed in feedlots prior to market transport. Herds are returned to pasture in the spring. If rest-rotation pasture management systems are employed by ranch operators, there will be some periodic transfer of herds among pastures throughout the grazing season. Dates of livestock movement vary from year to year depending on weather and forage conditions (Kimball County Agricultural Extention 1983, SCS 1983c, Keech and Bentall 1982).

Major activities on cash crop farms consist of spring planting for irrigated crops and fall planting for winter wheat. Time of planting for winter wheat can be critical for production of optimum yields, with only several days leeway (SCS 1983b). Harvest activities occur in late summer and fall, with the wheat harvest occurring in late July or early August. Timing of this harvest is crucial. It is accomplished primarily by cuscom-combine teams which traverse the ROI, completing the harvest for the entire region in a matter of days. The wheat harvest also must take into account the possibility of hail which can completely destroy the wheat crop. Thus, failure of the wheat harvest can be the result of a few hours delay. Once wheat is harvested, it is transported to nearby grain elevators for storage, and is eventually moved to market by rail or truck (Kimball County Agricultural Extension 1983b, SCS 1983).

Local roads are critical access routes for both farming and ranching operations. According to studies described in the transportation EPTR, Section 3.5.1.2.1.1, traffic on rural roads may more than double during harvest season. Traffic on rural roads in the region was found to be higher than would be typically expected. The large increases in traffic at harvest time are characterized by harvest vehicles which are heavy, slow-moving, and bulky.

Outside the urban centers, rural population is sparsely distributed in all of the ROI counties except portions of Scotts Bluff County, resulting in a density rate of approximately 2.1 persons per square mile in the area generally encompassing the DA (U.S. Department of Commerce 1981c, 1981d). The average

household size in the rural portions of the ROI is 2.87 persons (U.S. Department of Commerce 1982).

2.6.1.2.2 Deployment Area

Cable System. Table 2.6.1-10 lists the land uses associated with the ll proposed cable routes and Figure 2.6.1-5 shows their generalized locations. See Figure 1.1-5 for an orientation to cable route locations. The proportion of the three agricultural uses found in the ROI counties also characterizes the amounts found in the cable corridors. Small amounts of irrigated agriculture are found, dry farmland is fairly well represented, and a preponderance of grazing land is located in nearly all of the routes.

Quantity Distance Zones. The Air Force has, for planning purposes, established an explosives safety requirement for the proposed project of a 1,750-foot radius around each LF, restricting residential uses for an additional 11,700 acres of land over the amount currently enforced for the Minuteman system. Owing to the sparsely populated nature of the region, only 9 of the 100 LFs have inhabited structures within the stand-off distance. Uninhabited farm support buildings are also associated with these inhabited structures.

Launch Facilities. Modifications at LFs would mostly occur within existing fence lines where the use is already government/public for military use. No detailed inventory of existing land use conditions was therefore prepared.

Transporter/Erector Roads. T/E road modifications will occur within existing road rights-of-way. Therefore, a detailed existing conditions inventory was not conducted.

2.6.2 Recreation

2.6.2.1 Regional Recreation

A total of 86 resource-based recreation areas (not including widely dispersed BLM lands) have been identified within the 150-mile ROI radius. Of these, 37 are in Wyoming, 30 are in Colorado, and 19 are in Nebraska. The locations of these recreational lands within the ROI are shown in Figure 2.6.2-1 while the legend for these lands is provided in Table 2.6.2-1.

2.6.2.1.1 National Park Service Lands

The NPS administers four recreational/historical areas within the ROI, of which only one is actively used for a wide variety of outdoor recreational activities. The four areas are Fort Laramie National Historic Site in Wyoming, Rocky Mountain National Park in Colorado, and the Scotts Bluff and Agate Fossil Beds National Monuments in Nebraska. Since the Wyoming and Nebraska sites are primarily oriented toward sightseeing and educational interpretation, only Rocky Mountain National Park in Colorado is considered to be a competitor for recreational participation within the region.

Statistics maintained by the NPS indicate that total visitation at Rocky Mountain National Park, in terms of actual number of visitors, is very high. In 1981, visitation exceeded 2.9 million; it dropped to slightly less than

Table 2.6.1-10

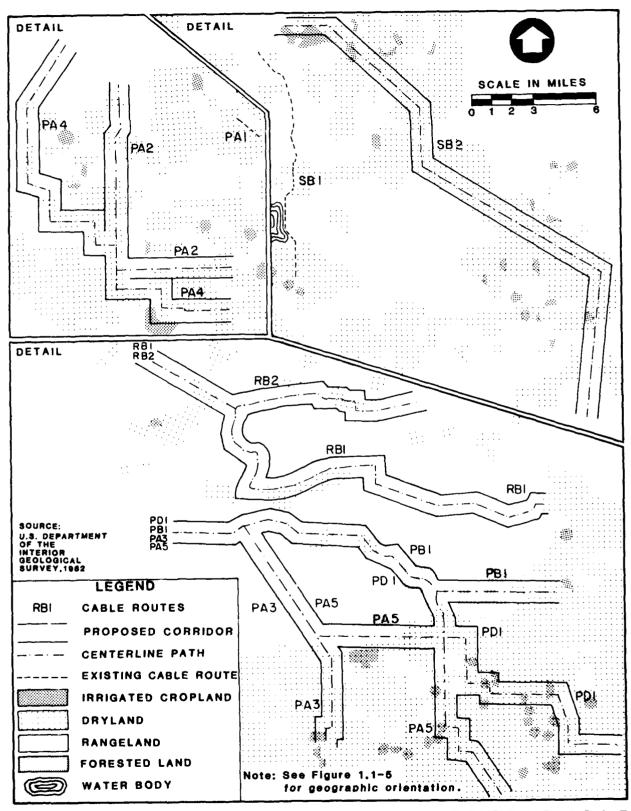
BURIED CABLE CORRIDOR LAND USES

Corridor	Total Acreage	Percent Irrigated	Percent Dry Farm	Percent Rangeland
PA2	10,025	0	49	51
PA4 ^b	13,930	3	43	54
PA1 ^{ab}	5.5	0	75	25
PD1	16,357	14	24	62
RB1 ^b	16,496	8	5	87
PA3	9,228	2	22	76
PB1	12,355	3	7	90
SB1 ^{ab}	50	18	17	65
SB2	16,481	11	56	33
PA5 ^b	15,587	5	37	58
RB2	9,278	0	13	87

Notes: a Route follows existing Minuteman cable location. Acreage calculated on 35' easement ${\bf x}$ length of cable.

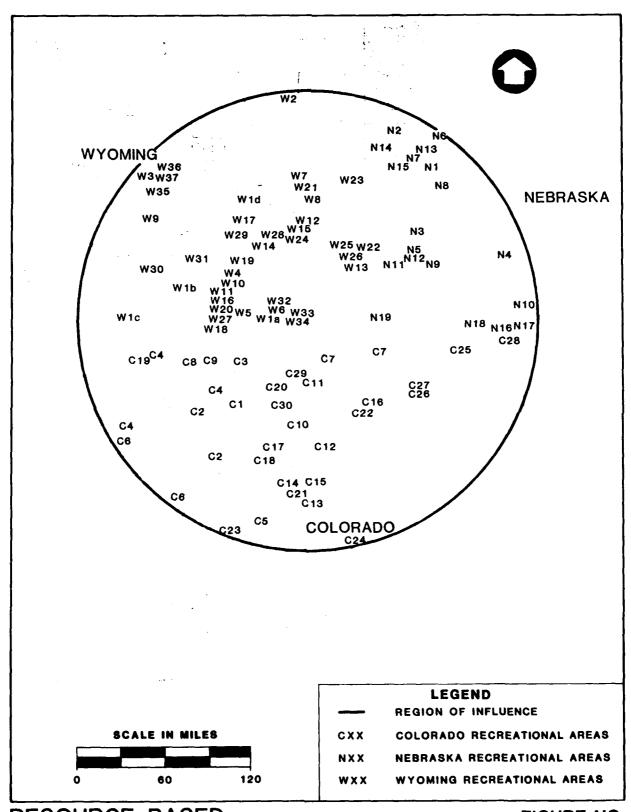
b Proposed Action routes.

Acreages for the nine routes that do not follow existing cables are calculated for the total area of the mile-wide corridor.



CABLE ROUTES LAND USE/LAND COVER

FIGURE NO. 2.6.1-5



RESOURCE-BASED RECREATIONAL AREAS IN THE ROI

FIGURE NO. 2.6.2-1

Table 2.6.2-1

REGIONAL OUIDGOR RECREATIONAL AREAS NYOMING, COLONADO, AND NEBRASKA

Jurisdiction	USS SS
Colorado	White River National Forest Arapaho National Grassland Arapaho National Middlife Refuge Colorado State Forest Barbour Pends State Recreation Area Barbour Pends State Recreation Area Castlewood Canyon State Recreation Area Castlewood Canyon State Recreation Area Cherry Creek State Park Eldorado Canyon State Park Colden Gate Canyon State Park Ramboat Lake State Park Ramboat Reservoir Anorth Sterling Reservoir Carter Reservoir Anorth Sterling Reservoir Carter Reservoir Carter Reservoir Reservoir Buldageour State Recreation Area Chadron State Park Box Butte Reservoir State Recreation Area Buldgeport State Recreation Area Chadron State Park Box Butte Reservoir State Recreation Area Unident Hills State Recreation Area Ramboat Area Ramboat Area Gilbert Baker Wildlife Hanagement Area Gilbert Baker Wildlife Hanagement Area Bitterswert Wildlife Hanagement Area Gilbert Baker Wildlife Hanagement Area Gilbert Baker Wildlife Hanagement Area Bitterswert Wildlife Hanagement Area Goldenood Wildlife Hanagement Area Goldenood Wildlife Hanagement Area Goldenood Wildlife Hanagement Area
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Legend: MPS - National Park Service; USS - U.S. Forest Service; USFWS - U.S. Fish and Wildlife Service; WKC - Myoming Recreation Commission; Will - Myoming Game and Lish Department; COPUR - Colorado Department of Parks and Outdoor Recreation; COOM - Colorado Department of Wildlife; KGPC - Nebraska Game and Parks Commission; Other - any agency not listed above.

*Hawk Springs Reservoir is a proposed game and fish area to be under Will jurisdiction,

the second of th

2.6 million in 1982. In terms of camping, there were approximately 256,000 participants per year with variations of no more than $\pm 5,000$. All of the skiing participation occurs at Hidden Valley, the only ski area within park boundaries. Besides camping and skiing, other activities that exist in the park include picnicking, fishing, hiking/horseback riding, and snowmobiling/cross-country skiing.

Although Rocky Mountain National Park has a high appeal to out-of-state visitors, the NPS estimates that the majority of its visitors originate from within the state of Colorado. The large population centers within the project ROI that are located close to Colorado's Front Range account for much of this high in-state visitation. These population centers include Denver and its environs, Boulder, Fort Collins, Greeley, Loveland, and Longmont. Visitation from the Cheyenne and Laramie areas of Wyoming is also significant due to their proximity to the park.

2.6.2.1.2 National Forest System Lands

The project ROI contains all or part of ten national forests and grasslands which are under the jurisdiction of the United States Forest Service (USFS). These areas include Medicine Bow National Forest and Thunder Basin National Grassland in Wyoming; Arapaho, Roosevelt, Routt, Pike, and White River national forests and Pawnee National Grassland, all in Colorado; and Nebraska National Forest and Oglala National Grassland in Nebraska. In addition, several designated wilderness areas are incorporated within the boundaries of some of the national forests. These include Savage Run, Mount Zirkel, Rawah, Comanche Peak, Cache La Poudre, Neota, Never Summer, Indian Peaks, Mount Evans, Lost Creek, Eagle's Nest, Flat Tops, and Holy Cross.

Forest System lands generally provide a wide variety of outdoor recreation opportunities ranging from activities such as skiing, which primarily occurs at developed sites, to activities such as hunting and fishing that are mostly dispersed throughout large undeveloped areas. Activities like camping and picnicking can occur at both developed sites and undeveloped areas. In this regard, the national forests offer a greater variety of activities than the national grasslands and also experience higher levels of use. Table 2.6.2-2 lists 1981 visitation estimates, in visitor days, for each major activity occurring in the ten Forest System lands.

By far the greatest level of recreational participation exists at White River National Forest; major activities are skiing and camping. The next highest areas, in terms of recreational participation, are Roosevelt, Arapaho, and Pike national forests, by rank. All three areas have high levels of camping participation but only Arapaho had a significant amount of skiing in 1981. Other activities that are especially popular at all of these areas include hiking/horseback riding and fishing. Visitation is lowest at Nebraska National Forest and the three national grasslands, while Routt and Medicine Bow national forests have total visitation figures that fall somewhere in the middle.

Medicine Bow National Forest merits particular attention because of its proximity to the city of Cheyenne and its importance as a recreational resource in southeastern Wyoming. It contains more than 1 million acres and 4 separate land units (Medicine Bow, Pole Mountain, Hayden, and Laramie Peak)

Table 2.6.2-2

1981 VISITATION, BY ACTIVITY, AT U.S. FOREST SYSTEM LANDS (In Thousands of Visitor Days)

Production Bow National Protest 712.2 323.6 57.2 5.9 1.3 80.7 110.5 11.1 58.8 Thunder Basin National Grassland 27.8 3.4 2.4 - 0.6 4.6 13.7 - 0.8 Arapaho National Grassland Arapaho National Forest 1,604.1 537.1 70.9 445.2 3.2 136.9 68.6 15.8 220.6 Roosevelt National Forest 1,650.2 687.1 189.4 60.0 6.4 261.6 71.7 31.8 276.5 Routt National Forest 1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 Nhite River National Forest 1,179.1 613.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 Paynee National Forest 22.6 7.0 6.1 - - 5.5 113.0 46.3 7.5 274.1 Nepraskal National Salad 22.6 7.0 6.1 - - <td< th=""><th>forest/Grassland</th><th>Total</th><th>Camping</th><th>Picnicking</th><th>Skiing</th><th>Swimming</th><th>Fishing</th><th>Hunt ing</th><th>Boating</th><th>Hiking/ Horseback Riding</th><th>Snowmobiling/ Cross Country</th><th>Off-Road Vehicles</th></td<>	forest/Grassland	Total	Camping	Picnicking	Skiing	Swimming	Fishing	Hunt ing	Boating	Hiking/ Horseback Riding	Snowmobiling/ Cross Country	Off-Road Vehicles
27.8 3.4 2.4 - 0.6 4.6 13.7 - 0.8 1,604.1 537.1 70.9 445.2 3.2 136.9 68.6 15.8 220.6 1,650.2 687.1 189.4 60.0 6.4 261.6 71.7 31.8 276.5 899.3 356.5 26.0 38.9 0.7 174.1 129.2 5.0 101.4 1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - - - 1.7 - 1.7 38.7 8.5 12.5 - - - - - 1.7 38.7 8.5 12.5 - - - - - 1.7 - 1.7 38.7 8.5 1	ow National	712.2	323.6	57.2	5.9	1.3	30.7	110.5	11.11	58.8	63.1	,
1,604.1 537.1 70.9 445.2 3.2 136.9 68.6 15.8 220.6 1,650.2 687.1 189.4 60.0 6.4 261.6 71.7 31.8 276.5 899.3 356.5 26.0 38.9 0.7 174.1 129.2 5.0 101.4 1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - 0.1 7.7 - 1.7 38.7 8.5 12.5 - - 2.7 11.0 - 3.9	sin National	27.8	3.4	2.4	,	9.0	4.6	13.7		0.8	2.3	1
1,650.2 687.1 189.4 60.0 6.4 261.6 71.7 31.8 276.5 899.3 356.5 26.0 38.9 0.7 174.1 129.2 5.0 101.4 1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - 0.1 7.7 - 1.7 38.7 8.5 12.5 - - 2.7 11.0 - 3.9	tional	1,604.1	537.1	6.07	445.2	3.2	136.9	68.6	15.8	220.6	105.7	0.1
899.3 356.5 26.0 38.9 0.7 174.1 129.2 5.0 101.4 1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - 0.1 7.7 - 1.7 38.7 8.5 12.5 - - 2.7 11.0 - 3.9	National	1,650.2	687.1	189.4	0.09	6.4	261.6	71.7	31.8	276.5	62.7	3.0
1,179.1 613.4 109.0 - 5.5 113.0 46.3 7.5 274.1 3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - 0.1 7.7 - 1.7 38.7 8.5 12.5 - - 2.7 11.0 - 3.9	onal Forest	899.3	356.5	26.0	38.9	0.7	174.1	129.2	5.0	101.4	67.4	0.1
3,772.6 1,182.4 76.7 1,663.7 4.8 188.4 174.4 58.4 313.6 22.6 7.0 6.1 - - 0.1 7.7 - 1.7 38.7 8.5 12.5 - - 2.7 11.0 - 3.9	nal Forest	1,179.1	613.4	0.601	,	5.5	113.0	46.3	7.5	274.1	10.3	
22.6 7.0 6.1 0.1 7.7 - 1.7 38.7 8.5 12.5 2.7 11.0 - 3.9	r orest	3,772.6	1,182.4	76.7	1,663.7	4.8	188.4	174.4	58.4	313.6	110.2	,
38.7 8.5 12.5 2.7 11.0 -	ional	22.6	7.0	6.1	,	t	0.1	7.7	,	1.7	i !	ı
	ational ala Natíonal	38.7	8.5	12.5	•	1	2.7	11.0	1	3.9	. 0.1	1

Note: I Total visitor days include only the activities listed in the table.

U.S. Forest Service, Recreation Information Management Center, "FY 1981 Recreation Use (in visitor days) by Activity Groups and Places of Occurrence," computer printouts, November 3, 1981. Source:

distributed among five Wyoming counties, with the heart of the Forest in Albany County. The majority of the lands within the Forest are managed by the USFS, with remaining lands under state and private ownership.

Medicine Bow National Forest is as much an attraction to local residents as it is to people living outside the region. A field inspection of the Medicine Bow and Pole Mountain units of the Forest during a July weekend indicated that approximately one-half of all cars had Wyoming license plates. Of the instate vehicles, the majority were from Laramie and Albany counties, which were about equally represented. Therefore, although Medicine Bow serves a large regional base, residents of the Cheyenne area are an important component of its overall visitation.

The most popular activity at Medicine Bow, in visitor days, is camping. Of the other activities, the most popular is hunting, followed by fishing. Most of the hunting activity is related to big game such as elk, deer, and bighorn sheep. Other popular activities include hiking/horseback riding, snowmobiling/cross-country skiing, and picnicking. Downhill skiing at the one major ski area in the Forest is not particularly attractive due to competition from other nearby ski areas. Swimming is also low in comparison to other activities, probably due to the cold temperatures of the water bodies within the Forest. Even though ORV use is not identified by the statistics as an important recreational activity, USFS personnel indicate that there have been increasing problems with such vehicles in areas where they are not permitted.

The USFS maintains data concerning visitation-to-capacity ratios for individual developed sites within Medicine Bow. So-called theoretical capacity is determined by multiplying the estimated capacity in people-at-one-time by the number of calendar days during a typical recreation season and then doubling the result to account for two 12-hour days in 1 calendar day. The estimated number of annual visitor days at each site can then be compared to the theoretical capacity. Generally, when visitation exceeds 40 percent of theoretical capacity for a given site, the USFS considers that site over-crowded during much of the year.

Based on USFS statistics, most of the areas within Medicine Bow are significantly below theoretical capacity. The areas that do have visitation-to-capacity values of 40 percent or greater are listed in Table 2.6.2-3. For the most part, there are a sufficient number of underutilized sites within the Forest, close enough to those listed, to handle any overflow as a result of overcrowding. Exceptions are the four campgrounds within the northern Laramie Peak area (Campbell Creek, Esterbrook, Curtis Gulch, and Friend Park) since they are the only campgrounds in that portion of the Forest. Similarly, the two boating areas listed (Rob Roy and Lake Owen) are the only two areas developed specifically for boating anywhere in the Forest.

According to USFS statistics, none of the developed campgrounds or picnic grounds in the Pole Mountain Unit of the Forest has a visitation-to-capacity value of 40 percent or greater. Therefore, although this area receives heavy use by recreationists, there is adequate capacity available to handle use volumes.

Table 2.6.2-3

MEDICINE BOW NATIONAL FOREST SITES WITH
VISITATION-TO-CAPACITY VALUES OF FORTY PERCENT OR MORE

Site Name	Site Type	Ratio
Mirror Lake Lake Marie Battle Creek Bottle Creek Jack Creek Six Mile Gap Bottle Creek Rob Roy Lake Owen Pelton Creek Brooklyn Lake Sugarloaf-Libby Lake Sugarloaf-Lewis Lake Campbell Creek Esterbrook Curtis Gulch	Picnic ground, family type Picnic ground, family type Campground, family type Campground, family type Campground, family type Campground, family type Picnic ground, family type Boating site Boating site Campground, family type Campground, family type Picnic ground, family type Picnic ground, family type Campground, family type	194.80 279.22 57.18 64.54 54.55 42.85 69.09 44.71 83.63 41.14 62.28 65.21 65.21 65.66 46.22 73.20
Friend Park	Campground, family type	79.94

Source: U.S. Forest Service, Recreation Information Management Center, November 29, 1982.

2.6.2.1.3 Bureau of Land Management Lands

The BLM, a division of the U.S. Department of the Interior, controls approximately 5 million acres of land and water within the Wyoming and Colorado portions of the ROI. Wyoming accounts for 80 percent of these lands, with most located in Carbon and Natrona counties. No BLM lands exist within the Nebraska portion of the ROI and only a limited number exist east of the Front Range in Colorado.

Although the land area managed by BLM is immense, only a limited number of developed recreation sites are provided on these lands. Thirteen developed recreational sites within the ROI have been identified: Diamond Lake, Bennet Peak, Corral Creek, East Allen Lake, Encampment River Trailhead, Teton Reservoir, Bessemer Bend, Golden Eye, Rim, Lodgepole, and Pryor Flats, all in Wyoming; and Pumphouse and Cache La Poudre in Colorado. These sites primarily serve as access points to the undeveloped BLM Lands.

In general, BLM lands provide opportunities for dispersed types of recreation such as hunting, fishing, backcountry camping, picnicking, boating, hiking/horseback riding, snowmobiling/cross-country skiing, and ORV use. Recreational participation at specific developed sites is minimal in comparison to dispersed activities. In this regard, BLM district managers within the ROI estimate that developed sites account for only 5 to 10 percent of all recreational activities on BLM lands, while the Wyoming SCORP attributes only 4 percent to these sites.

No uniform statistics concerning recreational visitation on BLM lands exist for the ROI. Instead, each of the BLM reporting districts comprising the region maintain visitation estimates for that district only. Some districts have visitation estimates for individual activities for developed recreation sites only, while others have such information for the district as a whole. Since the majority of recreational use on BLM lands is dispersed, individual district managers stress caution in the use of information. The visitation numbers provided form a basic framework from which to assess recreational use on these lands. These figures are shown in Table 2.6.2-4.

The two BLM areas listed in the table that are expected to have the greatest attraction to Cheyenne area residents are those in the Wyoming counties. The first area, which includes Natrona, Converse, Platte, and Goshen counties in Wyoming (part of the Casper BLM District), is estimated to receive approximately 250,000 total visitor days of land-based, dispersed recreation each year. Most of this use is assumed to be hunting. Very little water-based, dispersed recreation takes place, except on the North Platte River in Natrona County where rafting is popular. Some water-based recreation also occurs at the developed sites of Golden Eye and Bessemer Bend. BLM staff estimates that a maximum of 15 percent of the recreational use occurring in any of these BLM lands originates from the Cheyenne area.

The rest of the Wyoming portion of the ROI, which includes Laramie, Albany, and Carbon counties (part of the Rawlins BLM District), shows visitation figures by activity for the district as a whole. Since these figures also reflect some recreational use outside of the ROI, they tend to overestimate the level of recreational participation within these ROI counties. The most popular activities on BLM lands in this area are camping, fishing, and hunting, respectively. The visitation figures shown in the table include developed sites as well as dispersed areas. A large portion of hunting and fishing use is believed to originate from Cheyenne and the Front Range communities in Colorado.

2.6.2.1.4 U.S. Fish and Wildlife Service Lands

The USFWS controls and manages six national wildlife refuges within the ROI. These refuges include Pathfinder, Bamforth, and Hutton Lake in Wyoming; Arapaho in Colorado; and North Platte and Crescent Lake in Nebraska. These areas provide a limited variety of recreational opportunities with an emphasis on wildlife-related activities including hunting and fishing. However, they generally serve more of a waterfowl breeding and nesting function than a recreational one, so visitation is quite low.

Visitation figures are not maintained for any of the Wyoming areas or North Platte. However, it is believed that little or no hunting occurs at these areas, and any recreation that does occur might incorporate the surrounding publicly owned lands; for instance, BLM owns a substantial amount of land around Pathfinder National Wildlife Refuge, and the Bureau of Reclamation is responsible for the reservoir within the refuge. Much of the land adjacent to the North Platte National Wildlife Refuge is managed by the NGPC. USFWS personnel estimate that Bamforth receives only about 50 visitors per year while Hutton Lake receives about 500. No estimates were available for Pathfinder or North Platte.

Table 2.6.2-4 VISITATION, BY ACTIVITY, ON BUREAU OF LAND MANAGEMENT LANDS (In Thousands of Visitor Days)

County/Bureau of Land Management Developed Site	Total 1	Camping	Picnicking	Skling	Swimming	Fishing	Hunting	Boating	Hiking/ Horseback Riding	Snowmobiling/ Cross Country	Off-Road Vehicles
Niobrara, Natrona, Converse, Goshen and Platte Counties (Woming)	250.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
° Golden Eve	5.6	ı	0.1	•	•	4.7	•	•	4.0	,	0.4
Bessemer Bend	9.0	0.4	9.0		•	4.3	,	3.2	ı	•	0.5
* Muddy Mountain	6.8	1.6	2.9	ı	ı	1	9.0	ı	9.0	0.5	9.0
Laramie, Albany and Carbon Counties (Wyoming)	799.9	362.5	30.4	•	0.8	189.6	94.6	31.2	10.4	21.7	58.7
Eagle County (Colorado)	111.9	5.3	•	ı	ı	4.1	67.9	8.3	•	21.3	5.0
Routt and Moffat Counties (Colorado)	45.5	4.5	•	ı	i	5.0	31.9	1.0		2.0	1.1
Jackson County (Colorado)	13.0	ı	•	1	ı	1	7.0	,	ı	1	0.9
Grand County (Colorado)	84.3	4.0ª	1	1	•	10.1ª	26.2ª	44.0	1	,	,

Notes: I Total visitor days include only the activities listed in the table. a These figures were derived on the basis of allocating dispersed activity totals among the major activities identified.

Source: Bureau of Land Management, conversations with district and resource area managers.

Visitation figures for Arapaho and Crescent Lake indicate that recreational uses at these areas are also extremely low. During the 12-month period from October 1980 to September 1981, only 199 hunters and 73 fishermen visited Arapaho, while 804 hunters and 166 fishermen visited Crescent Lake. Some nonconsumptive activities such as wildlife observation and nature study also occur.

Although some of the recreational visitation at these refuges may originate from the Cheyenne area or other cities along the Front Range, their low use levels indicate that none of them is particularly attractive in terms of recreational participation.

2.6.2.1.5 Wyoming State Lands

2.6.2.1.5.1 State Parks

The WRC is responsible for operation and maintenance of four state parks located within the ROI. The parks (Curt Gowdy, Glendo, Guernsey, and Seminoe) provide a variety of land-based and water-based recreational opportunities to residents of the region, with a particular attraction to residents of Cheyenne and Laramie County. A thorough analysis of visitation patterns for each of these sites is possible because of statistics maintained by the WRC.

Table 2.6.2-5 lists 1981 visitation estimates in terms of total visitors and the percentage participating in various activities. As shown in the table, total visitation estimates for Glendo, Guernsey, and Curt Gowdy state parks are all fairly similar, with a total variation of only 6,500 visitors. The total for Seminoe State Park, however, is significantly lower than the others.

Of the ten recreation categories considered in this study, only skiing, hunting, and snowmobiling/cross-country skiing do not occur in any of the four state parks. With the exception of Curt Gowdy State Park, the most popular activity in terms of percentage of total visitors participating is camping. At Curt Gowdy, this activity is the second most popular after fishing. The percentage of total visitors participating in fishing at Glendo and Seminoe state parks is similar to that at Curt Gowdy, making this activity the second most popular at both areas. In contrast, fishing is the least popular activity at Guernsey State Park.

Boating is a popular activity at three of the state parks but only moderately popular at Curt Gowdy. Similarly, swimming at Curt Gowdy is significantly lower than at the other parks, since it is prohibited in the park's two reservoirs in order to maintain the high water quality necessary for use as a public water supply to the city of Cheyenne. Limited swimming use does occur illegally.

Picnicking is a fairly popular activity at three of the state parks but only moderately popular at Seminoe. Hiking/horseback riding is consistently low in popularity for all of the parks, with less than 20 percent of total visitors participating. ORV use is even lower, with less than 5 percent participating.

The origins of visitors traveling to each state park are indicated in Table 2.6.2-6. By far the site most heavily oriented to the Cheyenne area is Curt Gowdy State Park. Almost three-fourths of its total use originates from

Table 2.6.2-5

1981 VISITATION AND PERCENTAGE PARTICIPATING IN EACH ACTIVITY AT WYOMING STATE PARKS

					Percentage of Total Visitors Participating	of Total	Visitors P	articipati	ng		
	Total								Hiking/ Horseback	Snowmobiling/	Off-Road Vehicle
State Park	(In Thousands of Visitors)	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Cross Country	Use
Curt Gowdy	67.0	49.6	45.1	ı	4.1	78.2	•	15.1	16.5		2.3
G]endo	73.5	83.1	50.5	1	48.6	17.4	1	9.89	15.7	•	4.7
Guernsey	68.3	65.2	57.8		52.7	11.1	,	49.6	19.9	1	4.1
Seminoe	7.0	83.9	30.1	ı	, 21.7	76.3	1	74.2	12.6	1	4.2

Note: Based on visitation during the May - September period. Percentages do not add to 100.0 because visitors are likely to participate in more than one activity during a single visit.

Source: Wyoming Recreation Commission, state park visitation statistics sheets for 1981.

Table 2.6.2-6

ORIGIN OF VISITORS TO WYOMING STATE PARKS (in percent of total visitation)

Origin	Curt Gowdy State Park	Glendo State Park	Guernsey State Park	Seminoe State Park
Cheyenne	72.3	9.9	13.3	4.2
Remainder of Laramie County	1.5	1.0	_	_
Platte County	-	9.2	16.7	0.7
Goshen County	0.8	4.1	12.6	•
Albany County	3.9	1.9	2.4	6.4
Remainder of Wyoming	2.8	27.0	7.2	46.0
TOTAL Wyoming:	81.3	53.1	52.2	57.3
Colorado	5.5	19.5	26.1	14.9
Nebraska	2.3	8.8	9.3	2.8
Remainder of Other States	10.9	18.6	12.4	24.9
TOTAL Non-Wyoming	: 18.7	46.9	47.8	42.6

Source: Wyoming Recreation Commission, state park visitation statistics

sheets for 1981.

Cheyenne and other parts of Laramie County. For Glendo and Guernsey state parks, more than 10 percent of total visitation at each area originates from Cheyenne and the surrounding county. Almost 30 percent of Guernsey's total visitation originates in Platte and Goshen counties.

Detailed data pertaining to capacity of the four state parks are not available, although WRC staff indicate that overcrowding is a major problem during summer weekends, especially peak holiday weekends. A field investigation of Glendo and Guernsey state parks during the Fourth of July weekend, 1983, verified those claims; campgrounds and picnic areas were extremely overcrowded. It is important to note, however, that the water level of both reservoirs was significantly higher than normal at the time, resulting in a reduction of available land and facilities. A field investigation of Curt Gowdy on the following weekend indicated sufficient excess capacity in relation to use.

A survey of visitors at each park was performed by the WRC to determine perceived problems. Overcrowding was ranked in the upper one-third of visitor concerns at three of the four parks, with Seminoe the exception. At Guernsey State Park, overcrowding was identified as the number one concern. Conflicting activities (which is also a problem associated with increased visitation) was not a major concern at any of the four areas.

2.6.2.1.5.2 State Game and Fish Areas

The Wyoming portion of the ROI contains at least 22 recreation areas presently under or proposed to be under the jurisdiction of the WGFD. A complete listing of these areas is provided in Table 2.6.2-1. The majority of these areas emphasize fishing and hunting as the principal recreational attractions, although several are also attractive to boaters. In most cases, other recreational activities such as camping, picnicking, swimming, etc., are performed in conjunction with the main activities of hunting, fishing, and boating, rather than as separate attractions. That none of these areas have developed recreational facilities, except for boat ramps and designated parking and camping areas, probably explains their low relative attraction for these other activities.

Although visitor-origin data do not exist for these areas, a field investigation of most of these areas during the Fourth of July weekend and the following weekend indicated that a few do have more of a regional than local attraction. Lake Hattie, Twin Buttes Reservoir, and Meeboer Lake had a large percentage of cars from Colorado as well as from various parts of Wyoming. Others, such as Wheatland Reservoir No. 1, showed limited use from Colorado but did receive some visitation from the Cheyenne area in addition to local users.

These recreation areas generally experience significantly lower use levels than any of the Wyoming state parks. This is due to a variety of reasons, including acreage limitations, minimal number of developed facilities, poor accessibility, general unfamiliarity with their existence, etc. At game and fish areas where visitation is considered high (Lake Hattie, Twin Buttes Reservoir, Wheatland Reservoir No. 3, and Grayrocks Reservoir), actual total visitors or activity days are significantly less than at WRC areas.

Visitation data by activity are sketchy or nonexistent for most of these areas. However, some incomplete data can be used to present a reasonable picture of visitation at many of the areas. One source available from the WGFD is a survey of fishing activity at most streams, lakes, and reservoirs in the state. The number of annual fishing days at each area based on this source is shown in Table 2.6.2-7. Twin Buttes Reservoir receives the heaviest fishing pressure at present, followed by Lake Hattie and Wheatland Reservoir No. 3. All other areas are significantly less utilized.

Table 2.6.2-7

FISHING USE AT WYOMING GAME AND FISH AREAS (In Activity Days)

Recreation Areas	Activity Days	Capacity Factor ²
Alsop Lake	3,500	2.0
Gelatt Lake	2,250	4.0
Grayrocks Reservoir	525	76.0
Hawk Springs Reservoir ¹	1,000	7.0
Johnson Lake	700	3.0
Johnson Reservoir No. 3	4,500	9.0
Lake Hattie	15,000	4.0
Laramie River	2,850	5.0
Leasenby Lake	2,000	3,0
Meeboer Lake	6,600	4.0
North Platte River	1,402	3.0
Packers Lake	180	4.0
Rawhide Creek	69	4.0
Rock Lake	300	5.0
Springer Wildlife Unit	300 ^a	4.0
Table Mountain Wildlife Unit	60	3.0
Twin Buttes Reservoir	25,000	4.0
Wheatland Reservoir No. 1	500	10.0
Wheatland Reservoir No. 3	13,500	2.5

Notes: 1 Hawk Springs is a game and fish area proposed to be under the jurisdiction of the Wyoming Game and Fish Department.

- Capacity factor is a multiplier indicating the additional amount of use that can be handled before reaching capacity.
- a This figure was revised from the 1,100 activity days cited in the Draft EPTR based on updated information from the Wyoming Game and Fish Department. This wildlife unit includes Bump Sullivan and Springer Reservoirs.

Source: Calculated from Wyoming Game and Fish Department, "Stream, Lake and Reservoir Survey," revised June 1, 1983 and rerevised through discussions with Wyoming Game and Fish Department staff.

The capacity factors in Table 2.6.2-7 provide an indication of the additional capacity-over-use that is available at each area for fishing. These factors take into account the amount of public access, size of the water body, frequency and type of fish catches, etc. The WGFD's purpose in maintaining such figures is for guidance in developing fishing regulations and a schedule for fish stocking. These factors are useful in identifying the overall recreational capacity of each site as well. All of the areas listed are below capacity in that they can handle additional fishing pressure.

Master plans prepared by the WGFD for the five wildlife units in the region also provide some estimates of recreational use as shown in Table 2.6.2-8. It should be noted that the only wildlife unit that receives a fair amount of recreational use is Springer with almost 20,000 user days annually. These figures confirm verbal estimates provided by WGFD staff.

2.6.2.1.6 Colorado State Lands

2.6.2.1.6.1 State Park and Recreation Areas

The CDPOR has the responsibility for managing the Colorado state parks and recreation system, which includes 13 recreation areas. These include Eldorado Canyon, Golden Gate Canyon, Roxborough, Steamboat Lake, and Lory state parks; Barbour Ponds, Boyd Lake, Barr Lake, Castlewood Canyon, Chatfield Reservoir, Cherry Creek, and Jackson state recreation areas, and the Colorado State Forest. None of these areas provide skiing or hunting opportunities and only a few (i.e., Golden Gate Canyon, Steamboat Lake, and Lory) provide snowmobiling/cross-country skiing on a relatively frequent basis. Many or all of the other recreational activities are available at each area, except at Roxborough which is presently under construction. Visitation estimates for 1982 in terms of activity days are shown for each area in Table 2.6.2-9. These estimates were prepared by the CDPOR.

The area with the greatest amount of recreational use is Chatfield Reservoir, while the next most popular is Cherry Creek. The activities with the greatest participation at both areas include fishing, picnicking, and hiking/horseback riding, although swimming participation at Cherry Creek is also high. A third area with a relatively high level of recreational use is Golden Gate Canyon, which provides opportunities for only a limited number of activities but receives a fair amount of participation in each.

Although no recent studies to determine visitor origins at each area have been performed, the CDPOR believes that the majority of users are from Colorado communities within the region.

Table 2.6,2-8

RECREATIONAL USE AT WILDLIFE UNITS (In Activity Days)

Springer Wildlife Unit (1980 estimates) ¹ :	
Boating, Swimming, Fishing, Picnicking Hunting	15,000 4,625
TOTAL:	19,625
Table Mountain Wildlife Unit (1980 estimates):	
Summer Use Hunting .	450 1 , 950
TOTAL:	2,400
Laramie Peak Wildlife Unit (1980 estimates):	
Nonconsumptive Uses Fishing Hunting	50 750 900
TOTAL:	1,700
Pennock Mountain Wildlife Unit (1980 estimates):	
Hunting Nonconsumptive Uses	470 100
TOTAL:	570
Wick Brothers Wildlife Unit (1980 estimates):	
Hunting Fishing Nonconsumptive Uses	1,050 1,000 500
TOTAL:	2,550

Note: 1 These figures were revised from the Draft EPTR based on updated information from the Wyoming Game and Fish Department. This wildlife unit includes Bump Sullivan and Springer Reservoirs.

Source: Wyoming Game and Fish Department, assorted wildlife unit master plans.

Table 2.6.2-9

1982 VISITATION, BY ACTIVITY, AT COLORADO STATE PARKS AND RECREATION AREAS (In Thousands of Activity Days)

Note: 1 Total visitor days include only the activities listed in the table.

Source: Colorado Division of Parks and Outdoor Recreation, "1982 Activity Day Report by Park and Region," compiled from managers' reports, November 1982.

2.6.2.1.6.2 State Wildlife Areas

The CDOW has jurisdiction over all state wildlife areas, which number more than 100, within the Colorado portion of the ROI. These areas make available some 100,000 to 200,000 acres for a variety of recreational opportunities. They include Empire, Tarryall, Ramah, Tamarack, Prewitt, North Sterling, and Julesburg reservoirs. The major activities found on CDOW lands include hunting, fishing, boating, camping, and hiking, although many of the individual areas restrict or prohibit certain uses. The levels of visitation and activity participation at each area are generally not available for these areas, since most are not staffed.

Colorado wildlife areas are not considered in any detail in this analysis since it does not appear that Cheyenne residents typically travel to such areas for recreation. The primary activities at wildlife areas are hunting and fishing, both of which Wyoming residents generally pursue in their own state. This is due to the large number of public lands, the generally less crowded conditions, and the excellent hunting opportunities available in Wyoming, as well as the high nonresident license fees that exist in Colorado.

2.6.2.1.7 Nebraska State Lands

2.6.2.1.7.1 State Parks, Recreation Areas, and Wildlife Management Areas

The NGPC maintains jurisdiction over all state parks, recreation areas, historic parks, and wildlife management areas in Nebraska. The NGPC also manages state wayside areas, which are located adjacent to main traveled highways to provide safe rest and picnic stops for travelers. The latter were not considered in this analysis. The 15 recreational lands within the ROI that are managed by the NGPC are listed in Table 2.6.2-10 together with their respective visitation levels.

The most popular area is Lake McConaughy State Recreation Area, followed by Fort Robinson, Lake Minatare, Chadron, and Bridgeport. In contrast, the wildlife management areas are all ranked at the lower end of the visitation scale, with a total variation of only 2,000 visitors between the highest and lowest ranked.

Published visitation data by activity are scarce, with the exception of registered campers at Chadron, Fort Robinson, and Ash Hollow (Table 2.6.2-10). Although the ratio of campers to total visitors at these areas is quite low, these figures do not reflect the total number of campers since some campgrounds do not have registration fees. Other activities at most of the state parks and recreation areas are picnicking, swimming, fishing, hunting, boating, hiking/horseback riding, and snowmobiling/cross-country skiing. Activities at the wildlife management areas are more limited.

Although specific information about the origins of recreation area visitors is unavailable, the percentage of out-of-state visitors at five areas during several holiday weekends in 1982 is shown in Table 2.6.2-11. Of the five areas, Lake McConaughy State Recreation Area had the greatest percentage of out-of-state visitors. Fort Robinson State Park also consistently had a relatively high percentage of out-of-state visitors during the year. Lake

Table 2.6.2-10

1982 TOTAL VISITATION AND LIMITED 1981 CAMPING VISITATION AT NEBRASKA STATE LANDS

(in Thousands)

State Land	Total Visitors	Camping Visitors
Chadron State Park	204.5	11.2
Fort Robinson State Park	329.7	15.2
Wildcat Hills State Recreation Area/Wildlife Management Area	2.5	N/A
Box Butte Reservoir State Recreation Area	60.0	N/A
Bridgeport State Recreation Area	150.0	N/A
Lake McConaughy State Recreation Area	353.9	N/A
Lake Minatare State Recreation Area	265.1	N/A
Ash Hollow State Historical Park	69.7	1.7
Nine Mile Creek Wildlife Management Area	2.0	-
Ponderosa Wildlife Management Area	2.5	-
Gilbert Baker Wildlife Management Area	2.2	N/A
Peterson Wildlife Management Area	1.8	-
Bittersweet Wildlife Management Area	0.6	-
Goldeneye Wildlife Management Area	0.8	-
Goldenrod Wildlife Management Area	0.5	-
TOTAL:	204.5	11.2

Note: Camping visitors include only those campers that paid registration fees for their sites. Many areas include campgrounds for which no registration fee is required. In such cases, the number of campers is not indicated.

Source: Nebraska Game and Parks Commission estimated park visitor counts (1982) and general camping visitor counts (1981).

Table 2.6.2-11

PERCENTAGE OF OUT-OF-STATE VISITORS TO NEBRASKA STATE RECREATION LANDS DURING THREE HOLIDAY WEEKENDS IN 1982

	Percentage	Percentage of Out-of-State Visitation	tation
State Lands	Memorial Day Weekend	July 4th Weekend	Labor Day Weekend
Chadron State Park	1.5%	1.1%	1.0%
Fort Robinson State Park	21.0%	40.0%	32.0%
Bridgeport State Recreation Area	1.0%	3.0%	2.0%
Lake McConaughy State Recreation Area	62.0%	64.0%	64.0%
Lake Minatare State Recreation Area	20.0%	4.0%	3.0%

Source: Nebraska Game and Parks Commission Visitor Survey Reports, 1982.

Minatare State Recreation Area showed the most variation in its percentage of out-of-state visitors, while Chadron State Park and Bridgeport State Recreation Area showed consistently low figures. Due to the proximity of all of these areas to Wyoming and Colorado, it is assumed that much of the out-of-state visitation originates from these two states.

2.6.2.1.7.2 Other State Lands

Only one area under the jurisdiction of another Nebraska state agency is located within the ROI. Oliver Reservoir, located in Kimball County, is presently managed by the South Platte Natural Resource District. It reopened for public use in 1981 after 8 years without water. Local interest and support, particularly from the city of Kimball, Nebraska, and the town of Pine Bluffs, Wyoming, were a major factor in reopening the reservoir. Based on discussions with NGPC and Resource District personnel, it appears that the NGPC intends to acquire and operate Oliver Reservoir within the next several years, pending availability of funds.

Visitation data for Oliver Reservoir are limited but, based on discussions with District personnel and field observations, it appears that the majority of users are from the Kimball area, with the remainder mainly from Pine Bluffs and other nearby communities. Annual visitation at Oliver Reservoir is estimated at approximately 10,000 people. Field surveys made by District personnel over the Fourth of July weekends in 1982 and 1983 estimated the number of visitors at 3,500 and 2,800, respectively. Fishing, picnicking, camping, swimming, and boating were the principal activities at the reservoir.

2.6.2.1.8 Other Recreation Lands

2.6.2.1.8.1 Wyoming Lands

Three Wyoming reservoirs (Pathfinder, Alcova, and Gray Reefs) have been constructed by the U.S. Bureau of Reclamation. Management responsibility, however, has been completely delegated to the Natrona County Parks and Recreation Board in the case of Alcova and Gray Reefs reservoirs, and partially delegated to that same agency in the case of Pathfinder Reservoir. Other agencies having jurisdiction over parts of Pathfinder Reservoir include USFWS, WGFD, and the Bureau of Reclamation.

The most heavily used of the three Wyoming reservoirs is Alcova, with a total of almost 163,000 visitor days in 1982. Some of the more popular activities at Alcova include fishing and boating; picnicking, camping, swimming, and hunting also occur. No breakdown of visitation by activity is available for this reservoir.

The second most heavily used reservoir is Pathfinder, with a total of almost 56,000 visitor days. The three most popular activities in descending order are fishing, boating, and camping; picnicking, swimming, hiking, and hunting also occur. Finally, Gray Reefs Reservoir experienced only about 4,000 visitor days in 1982. Its most popular activities are hunting, boating, and camping, with some picnicking and fishing use.

The Bureau of Reclamation indicates that the majority of use at all three Wyoming reservoirs originates from the Casper area, with very little

visitation from Cheyenne. In fact, it was estimated that less than 5 percent of their recreational use is attributed to Cheyenne residents.

Three other water-based recreational areas located in the Wyoming portion of the ROI also do not fall under the jurisdiction of any of the other major recreation suppliers. These areas include Lake Absaraka and Sloans Lake, managed by the Cheyenne Parks and Recreation Department, and Upper North Crow Reservoir, under the jurisdiction of the Cheyenne Board of Public Utilities. Lake Absaraka and Sloans Lake are both located in the city of Cheyenne, one adjacent to and the other within a municipal park. Upper North Crow Reservoir is located mostly in Albany County near the Laramie County boundary, adjacent to the Pole Mountain area of Medicine Bow National Forest.

Almost all of the recreational use at these three areas originates from the Cheyenne area. Since Lake Absaraka and Sloans Lake comprise portions of the municipal park system, they are clearly oriented to local use. Upper North Crow Reservoir is probably less well known to most people within the region and would, therefore, attract more use from the Cheyenne area than other parts of the region. Access to the reservoir is limited and not well marked.

Visitation estimates are not available for all three areas. However, general trends were determined from conversations with local recreation planners and through field investigation. The two lakes within the city receive a great deal of use, particularly during Frontier Days when use reaches capacity. Since these lakes are small, the number of users that would create overcrowded conditions is not very high; this is especially true for boating on Sloans Lake. A field investigation of these areas on several July days indicated a fair amount of use at Sloans Lake but much less at Lake Absaraka. Even though swimming is prohibited at the latter, some swimming was observed. Swimming use at Sloans Lake is estimated to average 250 people per day during the summer season.

At Upper North Crow Reservoir only limited use was observed during a July weekend field investigation. No more than 30 people were observed at one time, including campers, fishermen, picnickers, and swimmers. A recreation area user indicated that the reservoir rarely gets much more crowded than observed. The city permits but does not encourage recreational use at the facility so it is expected that visitation will continue to be limited.

The only published source of visitation data for these areas relates to fishing use and capacity and is prepared by the WGFD. This source shows the following fishing activity days and capacity factors:

Recreation Areas	Activity Days	Capacity Factor
Lake Absaraka Sloans Lake	580 493	3.0 2.0
Upper North Crow Reservoir	3,750	3.0

The term "capacity factor" is a multiplier indicating the additional amount of use that can be handled before reaching capacity. Lake Absaraka, for example, can handle three times the current number of activity days.

2.6.2.1.8.2 Colorado Lands

The Bureau of Reclamation has provided two Colorado reservoirs (Carter Lake and Horsetooth), which are leased to the Laramie County Parks and Recreation Commission for use as county parks. Visitation figures for these areas (like those for the three Wyoming reservoirs) were maintained by total visitor days in 1982 but are not broken down by activity.

Carter Lake is very heavily used, with a total of almost 144,000 visitor days. The majority of the use at this site includes fishing, boating, and camping, in that order, although picnicking, swimming, and hiking also occur. At Horsetooth Reservoir, the number of visitor days was approximately 89,000. The most popular activities were fishing, boating, and camping. Picnicking, swimming, hiking, and ORV use supplement these recreational activities.

The Bureau of Reclamation and Laramie County Parks and Recreation Commission estimate that visitation from Cheyenne at these two sites is minimal. Cheyenne visitors are estimated to comprise less than 1 percent of total visitation at Carter, while the percentage at Horsetooth is only slightly higher (3 to 4%).

2.6.2.1.8.3 Nebraska Lands

One area in Nebraska that does not fall within the jurisdiction of any particular agency is the North Platte River between the Wyoming and Nebraska state lines and the Bridgeport State Recreation Area in Morrill County. This stretch of the river is designated as a canoe trail by the NGPC, which operates and maintains the Bridgeport State Recreation Area but does not have jurisdiction over any portion of the river. Public access to the river is available at most bridges. No visitation or use data are available for the North Platte River although fishing, camping, and rafting have been identified as the primary activities along the river.

2.6.2.2 Local Recreation

2.6.2.2.1 Cheyenne, Wyoming

2.6.2.2.1.1 Organization, Staffing, and Planning

Parks and recreation services were first offered by Cheyenne City government in 1973 and are coordinated through the Greater Cheyenne Recreation Commission

(GCRC). The GCRC is a 12-member advisory board composed of 4 members appointed by the City Council, 4 members appointed by the School District, and 4 atlarge members appointed by the other 8 members.

The Parks and Recreation Department is administered by a full-time staff of 36 persons and is divided into 4 main divisions: recreation, parks, golf, and swimming. In the last 3 years, the staff has grown by 4 forestry personnel (a new function incorporated into the parks division), 2 additional full-time swimming personnel, and 1 more full-time person in the recreation division for a total of 7 additional personnel. Part-time personnel varies with the season; in the summer of 1983 there were 144 part-time staff members working in parks and recreation. Using current budget information, full and part-time personnel figures were converted to a total equivalent of 83.5 full-time employees. Based on that figure, Cheyenne has a current ratio of 1.28 parks and recreation employees per 1,000 population.

Parks and recreation staff members are housed at several parks and recreation facilities throughout the community. Administrative headquarters are located at the Neighborhood Facility; the offices are small and overcrowded, particularly during registration when patrons come to sign up for activities.

The service area of the Cheyenne Parks and Recreation Department is the city limits. In actual practice, however, the Department serves the Cheyenne Urban Area, with a population of approximately 16,000 over and above the city population. There are no differential fees charged for services between city residents and non-city residents.

Planning for the parks and recreation system has focused on site planning for specific parcels of parkland. An in-house preliminary master plan was drafted in June of 1983 and provides guidance for renovating existing parks. A neighborhood-by-neighborhood analysis of park adequacy identifies potential parcels of land which could be used for park purposes and forms the basis for a 5-year capital improvement program.

The Parks and Recreation Department is partially included in the City's planning process; it is on the Planning Department's distribution list to review preliminary but not final plats. Currently, a City ordinance provides for a parks and recreation fee of \$450 per acre of residential development or the City may request dedication of land according to the equivalent that would be generated by the fee. At an estimated acquisition cost of \$25,000 per acre of land in the urban area and \$50,000 per acre of parkland development cost, the current \$450 fee is inadequate to provide sufficient parkland or park development in new neighborhoods. In addition, it is necessary to develop a stricter review process for land dedication. The City often receives property which is too small or costly to develop.

Parcels of land acquired through the subdivision process in the last 3 years include:

- A 1.4-acre parcel in the G&F Diamond subdivision (0.8 acre is drainage);
- o Ten acres in the Sun Valley subdivision with an existing population of about 3,500 and a much larger population approved (the park may be expanded to 40 acres at a later date); and

o A 1.8-acre parcel in the Big Sky subdivision which is a retention pond (the Department will be working with the Homeowners Association on minimal development).

2.6.2.2.1.2 Parks

The discussion of parks describes existing parks in the Cheyenne Parks and Recreation System as well as specific outdoor athletic and other leisure pursuit facilities. The location of existing parks is shown in Figure 2.6.2-2 (in pocket). Table 2.6.2-12 provides an inventory of existing parks and recreation facilities.

The GCRC has adopted a set of standards with regard to its parks. These standards represent goals which the City feels are obtainable in the near future. The City would like to provide 6 acres of developed parkland per 1,000 people in the greater Cheyenne area, approximately half in community parks and half in neighborhood parks. Community parks should be approximately one and one-half miles apart, neighborhood parks three-quarters of a mile apart. Deficient neighborhoods are to be provided with 5 acres per 1,000 people wherever possible.

There is a total of 297.5 acres of parks in Cheyenne; 270.5 of these acres are developed. The remaining parkland is either scheduled for or currently under development. This includes:

- o Fifteen acres adjoining Cahill Park, which is being developed mainly for soccer play.
- o Ten acres in the Sun Valley subdivision, which will be named Sun Valley Community Park. A master plan for developing this piece of property is being produced and will call for both community and neighborhood park facilities.
- o Two acres in the Sunnyside subdivision, which is being designed as a neighborhood park. It will be necessary to acquire additional property to complete this project.

Additionally, there are 75 acres of developed ballfield complexes which are owned and maintained by the City, a portion of which are leased to private league associations for operation. The existing parkland base of 372.5 acres represents total acreage for all community and neighborhood parks, and developed ballfield complexes. If the acreage standard adopted by the GCRC is applied to the population of the existing Cheyenne Urban Area population, the resulting need is 390.2 acres, indicating that the Cheyenne Urban Area is deficient by 17.5 acres.

A parkland survey/analysis was conducted on a neighborhood level. The analysis concerned itself with the acres of parkland, the park classification (community versus neighborhood) service radii, and the demographic profile of the existing neighborhood population. Information regarding specific neighborhoods is included in Appendix E. Thirty-three neighborhoods were included in the analysis. Of the total, 5 neighborhoods were found to have excess parkland, 5 had sufficient parkland, and 23 were deficient. Of the 23 deficient

Table 2.5.2-12 INVENTORY OF EXISTING PARKS AND RECREATION FACILITIES CHEYENNE, WYOMING

	Acres (School ^a /Park)	Ballfields	Soccer Fields	Tennis Courts	Basketball	Picnic Tables	Group Picnic Areas	Volleyball	Playground	Swim - Indoor	Swim - Outdoor '	l.ake	Indoor Facilities	Gym	Meeting Rooms	Weight Room	Golf Holes	Ice Skating - Outdoor	Trails
Neighborhood Parks																			
Canill	8		4			2			1										
Civitan	2 a					2			1										
Jaycee	2			2	2	2			1		1								
Lincoln	2 ª			2	4	2			1			1							
Mylar	23					4			1										
Old Town Mall	5								1										
Optimist	2					5	1		1										
3-11ley	4	_			4	2			1										
Sunset	6	Ic		1	2	2			1							_			
Timberland	2 a					5	1		1				1	1	3	1			
United Nations	3 a			2	2	1	1		1										
Community Parks		- 6																	
Brimmer	35	3 ^C	1	1		5		1	1									1	,
Holliday	39		1	6	2	24	1	1	1			1						1	1
Lions	131	1 ^c	i		_	35		1	2	1	1	1	,	,	•			1	1
pioneer	11ª	1 ^b	1	1	2	1		,	1	,	,	,	1 2	1 2	2 5	1		3	3
SUBTOTAL:	270.5	6	8	15	18	92	4	3	16	1	2	3	2	2	5	1		3	3
Special Use Areas																			
Airport Golf Course	145																18		
Kingham	77																9		
Prairie View																			
Jr. Babe Ruth Ballfield Complex		2 ^b																	
Jr. League Ballfield Complex	75	96																	
Youth Softball Complex		6 ^C																	
Parkways	25																		
<u>Schools</u>		2	11	3	192														
TOTAL:	592,5	25	19	18	210	92	4	3	16	1	2	3	2	2	5	1	27	3	3

Notes: a School open space in acres. b Indicates baseball fields. c Indicates softball fields.

Source: Cheyenne Parks and Recreation Department, 1983.

neighborhoods, the City felt it would be possible to bring 6 of them up to the 5-acre per 1,000-people standard. This would require the acquisition of a minimum of 46 acres.

2.6.2.2.1.3 Outdoor Recreation Facilities

Cheyenne parks provide outdoor facilities for baseball, softball, soccer, tennis, basketball, volleytall, and swimming. The location of these cilities and their distribution throughout the park system are shown in Table 2.6.2-12.

In the absence of identified City standards, standards provided by the NRPA and the Wyoming SCORP indicate that Cheyenne is deficient by 18 tennis courts, 10 volleyball courts, 10 softball fields, and 1 baseball field (Table 2.6.2-13). School facilities are excluded from this estimate since they are not made available to the general public on a consistent basis.

Many of the facilities contained within the parks are in need of repair, additional maintenance, or upgrading (i.e., constructing irrigation systems, adding night lighting, or field seeding). If these steps were taken, existing facilities could accommodate limited additional use. However, the major effect of these improvements would be the protection and preservation of the existing quality of facilities.

Maintenance related to these facilities is an important concern. Based on the current park division budget, parkland maintenance costs have been estimated at \$1,900 per acre. Without the volunteer labor provided by leagues and associations, the per acre costs could increase by as much as 25 percent. In addition, several projects nearing completion will require higher levels of maintenance for the first few years.

2.6.2.2.1.4 Indoor Recreation Facilities

The City's indoor facilities are supplemented by using those of Laramie County School District No. 1. Through an informal agreement, the City uses school gymnasiums and some classrooms in elementary and junior high schools. The School District, in turn, uses outdoor athletic facilities, swimming pools, and some indoor facilities of the Parks and Recreation Department. Cocperation between the City and the School District has been good, essentially effecting a savings to city residents by not having to pay for duplicate facilities. The City owns and operates five indoor recreation facilities which are described in Table 2.6.2-14.

The City lacks the necessary indoor storage facilities to accommodate its four divisions. Storage space is necessary for maintenance equipment, irrigation parts, custodial supplies, and chemicals (such as fertilizers and weed control substances). Currently, there is only 2,000 sq ft of indoor storage space. It has been estimated that each division would require 9,000 sq ft to satisfy existing space demand.

Table 2.6.2-13

EXISTING FACILITY NEEDS CHEYENNE, WYOMING

<u>Facilities</u>	Adequacy ¹ Standards (1 Unit/1,000 Population)	1983 ² Facility Supply	1983 ³ Facility Need	Existing Supply/ Deficiency
Baseball	0.20	12	13	-1
Softball	0.33	11	21	-10
Soccer	0.10	8	6.5	+1,5
Volleyball	0.20	3	13	-10
Basketball	0.20	18	13	+5
Tennis	0.50	15	33	-18
Swimming	0.05	4	3	+1
Golf	0.04	3	2.6	+0.4

Notes: 1 Derived from the Wyoming Recreation Commission 1980, and National Recreation and Parks Association 1983. Standards include 1 baseball field per 5,000 population; 1 softball field per 3,000 population; 1 soccer field per 10,000 population; 1 volleyball court per 5,000 population; 1 basketball court per 5,000 population; 1 tennis court per 2,000 population; 1 swimming area per 20,000 population; and 1 nine-hole golf course per 25,000 population.

- 2 See Table 2.6.2-12 for existing Parks and Recreation Department facilities.
- 3 Using Cheyenne Urban Area 1983 population estimate of 65,030 people.

Table 2.6.2-14

CHEYENNE INDOOR RECREATION FACILITIES

Source: Cheyenne Parks and Recreation Department, 1983.

2.6.2.2.1.5 Special Use Facilities

Special use facilities under the operation of the Cheyenne Parks and Recreation Department include:

- o Airport golf course 145 acres, 18-hole golf course;
- Kingham Prairie View golf course 77 acres, 9-hole golf course;
- o Parkways and trails 25 acres of "street triangles" maintained by the Department, jogging trails, and bikeways;
- Lakes in Lions and Holliday parks which are used for swimming, fishing, and ice skating; and
- O Swimming pools one indoor-outdoor pool at Lions Park and the outdoor pool at Lincoln Park.

Additionally, the City concessions several services in some of the community parks. Concessions include a mini-golf course, a carnival/amusement operation, snack bars, an art center, and a child care service.

Frontier Park, adjacent to Lions Park, is a 104-acre facility containing support facilities to host Frontier Days, an annual event in Cheyenne. The Park is used only for special events; it is not accessible to the public the remainder of the year. It is owned by the City and leased by the Cheyenne Frontier Days Committee.

2.6.2.2.1.6 Recreation Programs

The Parks and Recreation Department offers a wide variety of leisure activities including dance, fitness, crafts, athletic skill development, athletic leagues, hobbies, and special events and tournaments. The most popular activities in 1982, as evidenced by registration and entrance fees, were swimming, open gym activities, fitness classes, and athletic leagues. Growth in program variety and participation for the last 2 years is shown in Table 2.6.2-15.

The City operates softball (120 teams), volleyball, and basketball leagues. The majority of softball and baseball leagues, however, are organized and operated by private organizations or associations. The Babe Ruth and Junior League groups lease fields which are owned and maintained by the City; these and other organizations and associations have assisted with development and improvement of ballfield complexes over the years. Currently, there are 75 acres of land dedicated to ballfields, some of which are leased by private athletic groups (nine fields to Junior League and two fields to Junior Babe Ruth League). League play is restricted by the availability of facilities and the City has placed a ceiling on the number of participants who can be accommodated. Parks and recreation officials feel that demand exists beyond current service levels for both softball and soccer league programs.

Table 2.6.2-15

RECREATION PARTICIPATION IN CHEYENNE, WYOMING

	FY 1981-82	FY 1982-83
Athletic Leagues (Total)	5,931	7,002ª
Softball `	2,395	3,085
Baseball	1,192	1,279
Soccer	875	1,045
Basketball	743	767
Volleyball	726	826,
Fitness Classes	2,821	9,564 ^h
Open Gym	17,314	13,553
Swimming (Total)	71,026	73,259
Open Šwim	69,148	71,147
Lessons	1,878	2,112

Notes: a Includes participation in private association-sponsored leagues.

b Increase in participation due to initiation of jazzercise classes.

Source: Cheyenne Parks and Recreation Department 1983.

2.6.2.2.1.7 Other Recreational Opportunities

Other major providers of public recreation facilities in Cheyenne include Laramie County School District No. 1 and the Laramie County Community College, both public institutions. An inventory of District facilities is presented in Table 2.6.2-16. There is a total of 22 elementary schools, 3 junior high schools, and 2 high schools containing these facilities. The School District complements the variety of recreation activities offered by the Cheyenne Parks and Recreation Department through sports, theater, special events, and club programs. Facilities at the Community College (Table 2.6.2-17) are less accessible to the Parks and Recreation Department, although facilities for special events and outdoor public use are available. The Community College offers a wide variety of adult education, vocational, hobby, special interest, and athletic classes which complement the programs offered by other parks and recreation service providers in the community.

Athletic associations and special interest organizations also supplement recreation opportunities available to residents of the Cheyenne area. Such associations and organizations include those devoted to archery, baseball, softball, boxing, bridge, arts, music, motorcycling, photography, skiing, dancing, soccer, drama, wrestling, trap and skeet shooting, and organizations such as Boy Scouts, Girl Scouts, church groups, 4-H, Kiwanis, and the Cheyenne Frontier Days Committee.

Laramie County parks and recreation programming is administered through its Recreation, Planning, and Advisory Board. The Board administers a small budget for a limited parks and recreation program within the county. (This budget has been approximately \$30,000 for the last several years.) The funds are normally used to support facility development and outdoor sporting

Table 2.6.2-16
LARAMIE COUNTY SCHOOL
DISTRICT NO. 1 RECREATIONAL FACILITIES

	Elementary	Junior High	Senior High	Administration Building	TOTAL:
Gyms/Multipurpose	20	က	3		56
Swimming Pools			2		7
Tennis Courts			က		က
Playground	22				22
Outdoor Basketball	22				22
Auditorium		က	5	-	9
Rifle Range			-		
Football/Soccer		2	-	_	7
Running Track			2		2
Auto Shop			-		-
Weight Room			2		2
Stadium			_		-
Archery Range			-		~

Table 2.6.2-17

LARAMIE COUNTY COMMUNITY COLLEGE RECREATIONAL FACILITIES

Recreational Facilities				
Indoor Facilities				
Gym (Basketball, Volleyball)	1			
Weight Room	1			
Handball/Racquetball Courts	4			
Rifle Range .	1			
Swimming Pool	1			
Mat Room (Wrestling, Judo)	1			
Multipurpose Room				
Tennis Courts	4			
Volleyball Courts	4			
Outdoor Facilities				
Softball Field	2			
Football/Soccer Field	1			
Quarter Mile Track	1			
Tennis Courts	2			

Source: Laramie County Community College, 1983.

programs organized by other groups or agencies. The County owns a 40-acre park on the edge of the city of Cheyenne that contains picnic areas and nature trails. The park is currently leased by Laramie County School District No. 1 for environmental education programs.

Commercial recreation opportunities in Cheyenne make a significant contribution to public recreation opportunities. A listing of commercial recreation assets is presented in Table 2.6.2-18. As with other commercial and retail enterprises, these commercial recreation facilities and services have developed over the years in response to a growing market to support such activities. This trend is expected to continue.

The YMCA in Cheyenne presents recreation opportunities to members and, for an increased fee, to nonmembers. Facilities at the YMCA are currently undergoing expansion and will include four racquetball courts, an indoor swimming pool, gymnasium, weight training areas, day care service, and meeting rooms. Programs and activities include a wide variety of instruction in swimming, fitness, martial arts and self defense, racquetball, weight training, gymnastics, other athletic skill development, youth day camp, some classes such as "How to Stay in College," and a youth social program. Membership capacity is not currently defined because of recent expansion.

Table 2.6.2-19 summarizes the total major facilities provided in the Cheyenne area by all recreation service providers, both public and private.

2.6.2.2.2 F.E. Warren AFB

F.E. Warren AFE offers a variety of indoor and outdoor recreational opportunities, with participation limited to military and Department of Defense civilian personnel. When invited, Cheyenne residents can use these facilities on a limited basis; the base sponsors three annual golf tournaments which are open to the public, and athletic leagues (which are coordinated with military programs) may be partially hosted at base facilities.

The recreation facilities on F.E. Warren AFB are sufficient to handle existing demand; some recreation facilities on the base appear to have excess capacity. An inventory of major recreation facilities at F.E. Warren AFB is presented in Table 2.6.2-20.

2.6.2.2.3 Kimball, Nebraska

2.6.2.2.3.1 Organization, Staffing, and Planning

The City of Kimball owns, operates, and maintains parks and an outdoor swimming pool within its incorporated limits. Operation and maintenance of these facilities are the responsibility of seven part-time or seasonal employees, four working at the pool and the remaining three in the parks system. The City has no formal parks and recreation department.

The County and the City of Kimball work cooperatively in operating and maintaining the Parks and Recreation Facility southeast of Kimball on Highway 30. The facility is owned by the City and administered by the Board of Park Commissioners. The Board consists of six members, four of whom are appointed by the City and two by the County. The parks and recreation complex

Table 2.6.2-18

PRIVATE RECREATIONAL FACILITIES IN THE CITY OF CHEYENNE

Type of Facility/Name	Number	Remarks
Amusement Places Time Out Family Amusement Center Video Village	2	
Billiard Parlors Central Billiards Plush Cue East Redwood Drive-In Liquor & Lounge	3	5 pool, 1 foosball, 1 ping-pong 10 pool, 2 foosball, 1 snooker 3 pool, 2 foosball
Bowling Alleys Bowlerama Centennial Club Two Bar Bowling Lanes	3	24 lanes 12 lanes 24 lanes
Golf Course - Miniature Restway Travel Park	1	9-hole, par 3
Golf Courses - Private Cheyenne Country Club Little America	2	18-hole 9-hole (executive)
Health Clubs/Gymnasiums YMCA Gloria Stevens Figure Salon Nautilus Fitness Center Rocky Mountain Health Club	4	10 handball/racquetball courts, swimming pool, gym (volleyball, basketball), nautilus, exercise room
Race Track Big Country Speedway	1	
Rifle and Pistol Range Cheyenne Rifle and Pistol Club	1	
Skating Rink Roller City	1	roller skating
Tennis Centers Cheyenne Frontier Days Tennis Center Cole Center Country Club Hitching Post	4	4 courts 2 courts 6 courts 4 courts
Theatres Cheyenne Little Theatre Cole Square Twin Cinemas Frontier Six Theatre Motor-Vu Drive-In	4	play theatre 3 indoor movies 6 indoor movies summer only
Trap and Skeet Range Cheyenne Municipal Trap Club	1	•
Source: Field observations, 1983.		

Table 2.6.2-19

TOTAL RECREATION FACILITIES AVAILABLE IN CHEYENNE

Bowling Lanes					09	09
Racquetball Courts			4	4	10	18
Recreation Center	4					4
9-Hole Golf Courses					2	ю
18-Hole Golf Courses					-	2
Picnic Tables	36					36
Picnic Shelters	4					4
Volleyball - Outdoor	က					က
Volleyball - Indoor			4			4
Basketball - Outdoor	18	22				40
Soccer/Football Fields	8		7			10
Softball/Baseball Fields	23	2	7			56
Tennis Courts - Outdoor	15	က	2		16	36
Tennis Courts - Indoor			4			4
Weight Training	-	2	استم	2	-	7
Multipurpose		20				20
Gymnasiums - Total	2ª	9	2	1	~	12
Swimming Pools - Outdoor	2				က	5
Swimming Pools - Indoor	-	2	 -i	_	-	9
	City Parks & Recreation	School District	Community College	YMCA	Private	TOTAL:

Notes: a Located in the recreation centers.

Source: Cheyenne Parks and Recreation Department, School District No. 1, Laramie County Community College, YMCA, and Table 2.6.2-12, 1983.

2-82

Table 2.6.2-20
F.E. WARREN AFB RECREATIONAL FACILITIES

Type of Facility	Number	Remarks			
Gymnasium	1	1 weight room, 1 basketall court, 1 track			
Bowling Alleys	1				
Auto Hobby Shop	1				
Photo Hobby Shop	1				
Ceramic Hobby Shop	1				
Lapidary Hobby Shop	1				
Woodworking Hobby Shop	1				
Parade Grounds	1	Can accommodate 3 fields for soccer/football Indoor			
Swimming Pool	1	Indoor			
Recreation Center	1	Steak-N-Brew and pool tables; center used for dances, meetings, ceremonies, and tours			
Youth Center	1	Center used for tours, trips, dances			
Riding Stable	1	40-50 horses for personal boarding; 40-50 horses for base use			
Family Camping Sites	24	Each site has water, electricity, picnic table, grill; campground has service building with showers, latrines, washer and dryer; fee: \$4/night-summer, \$2/night-winter			
Multi-Purpose Courts	3	Outdoor courts for basketball, volleyball, and tennis			
Golf Course	1	18-hole			
Golf Course Driving Rang	ge 1				
Roller Rink	1	Indoor			
Handball/Racquetball	_				
Courts	5	Indoor			
Softball Diamonds	3	Lighted			
Picnic Tables	14				
Youth Baseball Diamonds	5				
Tennis Courts	5	Outdoor, 3 lighted			
Archery Range	1	Indoor			

Source: F.E. Warren AFB 1983

is operated and maintained by six employees, two of whom are full time. It is not known what portion or total employee salaries at the facility is paid by the City.

Parks and recreation services are not currently considered in formal governmental planning efforts. The area does not have a master plan for parks and recreation nor subdivision regulations requiring parkland dedications of fees in lieu of land.

2.6.2.2.3.2 Parks

Kimball has 2 developed parks totaling 21 acres. No undeveloped or dedicated parkland has been set aside, nor has additional parkland acquistion or development been planned or budgeted. Locally perceived park-related problems focus on a reduction in services due to budget constraints and problems related to vandalism. Table 2.6.2-21 presents an inventory of parks, recreation facilities, and special use facilities in the Kimball area.

2.6.2.2.3.3 Recreation Facilities

The Kimball area has two significant recreation facilities, an outdoor swimming pool owned and operated by the City, and the Parks and Recreation Facility operated and administered jointly by the City and County. The 25-meter pool was constructed contiguous to Gotte Park at a cost of \$307,000 and has been in operation for 2 years. The Parks and Recreation Facility is located a short distance southeast of Kimball along Highway 30. It is a centralized recreation area containing:

- o Four ballfields, two of which are lighted;
- o Archery range;
- o Trapshooting range;
- o Nine-hole wolf course;
- o Two tennis courts:
- o Maintenance building; and
- Golf cart storage building.

The facility has enough undeveloped acres of land that, if public demand and fiscal resources made it possible, another nine-hole golf course could be added to the existing course.

The County Fairgrounds constitutes a 10-acre special use facility commonly scheduled for 4-H and Future Farmers of America competition.

2.6.2.2.3.4 Recreation Programs

Recreational activity diversity in the area has remained stable over the last several years (this is important since Kimball's population dipped by more than 30 percent between 1970 and 1980). Recreational opportunities include

Table 2.6.2-21

INVENTORY OF EXISTING PARKS, RECREATION, AND SPECIAL USE FACILITIES KIMBALL, NEBRASKA

Jogging Track					_	-	
Rodeo Facilities				-		~	
Trapshooting			-			-	
Archery			-			-	
Golf Holes			б			6	
Weight Room					-		
Gymnasium					4	4	
Swim - Outdoor						-	
Playground	-					2	
Picnic Area	-					2	<u>.:</u>
Basketball	-	~				2	jhtec
Tennis Courts			2			က). 1.6
Practice Fields					က	က	Park : are
Ballfields			4 a			49	otte that
Acres in Size	3.0	18.0	N/A	10.0	N/A	31.0	oart of G allfields
	<u>Parks</u> City Park	Gotte Park	Recreation Facilities Outdoor Pool ¹ Parks & Recreation Facility	Special Use Area County Fairgrounds	Schools	TOTALS:	Notes: 1 Located as part of Gotte Park. a Indicates ballfields that are lighted.

Sources: City of Kimball Administrator; Kimball High School Athletic Director, 1983.

golf, tennis, softball, baseball, swimming, basketball, picnicking, playground activities, archery, and trapshooting. Even though no activity participation statistics are available to document overall trends, local officials indicate that ballpark activities, golf, and swimming are the most popular recreational activities.

2.6.2.3.5 Other Recreational Opportunities

Within the area there are a number of other recreation programs and facilities provided by other public agencies and private enterprise. These include Kimball County High School, the Senior Citizens Center, Kimball's Episcopal Church, the public library, and a number of commercial recreation opportunities.

The local Natural Resource District has provided funding for one of the county's most popular outdoor recreation sites, Oliver Reservoir. The District, comprising Kimball, Cheyenne, and Duell counties, is a taxing district empowered to levy taxes for the purpose of supporting and maintaining recreational areas. Through financial support from the District and the federal jobs bill, as well as extensive volunteer work and fundraising, the recreation site situated 9 miles west of Kimball has become popular with residents from Nebraska, Wyoming, and Colorado. The reservoir area consists of 980 acres, of which approximately 272 acres are water. Recreational opportunities include fishing, water skiing, boating, swimming, camping, picnicking, playground activities, hiking, and nature study.

Recreation facilities operated in support of school programs have been opened to public recreational use on a limited basis. The high school gymnasium and weight room are open to interested parties at times not conflicting with school activities for basketball, volleyball, and training with weights. An inventory of facilities owned by the County School District includes gymnasiums at the high school and junior high school, small gymnasiums or multipurpose rooms at the elementary schools, and one football field at both the high school and junior high school. Joint use programs between the public schools and the City are difficult to arrange because of heavy facility use by school programs.

The Senior Citizens Center of Kimball offers a number of activities for senior citizens including noon meals, a musical band, and numerous arts and crafts classes. These activities are funded through donations and tax dollars. The Episcopal Church of Kimball and the public library also offer recreational opportunities. The church operates and maintains a lighted tennis court for public use. The library offers a summer reading program.

2.6.2.2.4 Pine Bluffs

2.6.2.2.4.1 Organization, Staffing, and Planning

The Town of Pine Bluffs owns, operates, and maintains parks and several recreational facilities within its incorporated limits. The Parks and Recreation Department is responsible to the Town Council and Mayor. There are no local boards or committees with parks and recreation authority. The Department consists of eight staff members, two of whom are full time. The parttime or seasonal employees have swimming pool and park maintenance duties.

Parks and recreation facilities and services are not currently considered in formal government planning efforts. Pine Bluffs has no parks and recreation master plan, nor subdivision regulations addressing parkland acquisition and development.

2.6.2.2.4.2 Parks

The town has 8 acres of developed parkland divided into 3 parks. These parks all have picnicking and play area activities. Pine Bluffs has no undeveloped parkland and no immediate plans to acquire more land. As with many other jurisdictions, periodic vandalism in parks is a problem.

2.6.2.2.4.3 Recreation Facilities

The focal points of recreational activity in Pine Bluffs are the Community Center, the outdoor swimming pool, and the lighted ballfield. The Community Center was constructed 4 years ago at a cost of \$642,000. The center has two full-time staff, and offers enough recreational opportunities to make it an important town recreation and social center. The 25-meter outdoor pool was constructed 3 years ago at a cost of \$86,000. The pool employs four seasonal employees. The community's lighted ballpark is an old facility, currently undergoing renovations with the addition of a concession stand and restrooms. The Town and School District jointly operate and maintain three lighted tennis courts on school property. The Parks and Recreation Department feels that the most pressing need for recreation facilities is another lighted ballfield.

2.6.2.2.4.4 Recreation Programs

The number of organized recreational programs offered by the Town is limited. The swimming pool provides supervised recreational activities during summer months. The availability of a number of Town-owned and operated facilities affords residents additional recreation opportunities for tennis, volleyball, roller skating, baseball, and softball. Activity diversity has increased over the last several years due to the construction of the Pine Bluffs Community Center and some park enlargement. Program/activity participation statistics were not available to document activity development trends. The Parks and Recreation Department Director feels the most popular recreational activities are pool and ballpark activities in the summer, and general community center activities during the remainder of the year (i.e., volleyball, group meetings, etc.).

2.6.2.2.4.5 Special Use Facilities

Two special use facilities exist in the area. The arena/fairgrounds site is usually scheduled for rodeo activities. Most of the facility upkeep is provided by local volunteer help, although the Town supplies occasional maintenance assistance. The second special use facility is the day care center located within the community center. It is operated and maintained by the Town.

2.6.2.2.5 Wheatland, Wyoming

2.6.2.2.5.1 Organization, Staffing, and Planning

Wheatland owns and maintains a small number of parks within its incorporated limits. The community does not administer and maintain any of the area's major recreation facilities; these functions are performed by the Platte County Parks and Recreation District. Town parks are controlled by the community's Parks Department. No boards or committees have park authority. The Parks Department normally employs from five to nine staff members, depending on the time of year. Only two employees are full time; the remainder perform seasonal duties.

Wheatland's subdivision regulations require a mandatory dedication of parkland by subdivision developers. The land dedication requirements are on a graduated scale, that is, the larger the subdivision, the larger the land dedication, up to 25 percent of the subdivided area. The Town has an option to accept or decline the land dedication, and may opt for fees in lieu of land. These fees are based on a percentage of the land value. Small amounts of parkland have been acquired through application of these subdivision regulations to new housing developments on at least two occasions.

2.6.2.2.5.2 Parks

Wheatland has 33.4 acres of developed parkland. These areas are operated and maintained by Wheatland's Parks Department. The Town owns 0.3 acres of undeveloped parkland, but has no plans for its development. The Parks Department feels no pressing need to acquire and develop additional parks. An immediate need exists to curb park vandalism.

2.6.2.2.5.3 Recreation Facilities

While the Town of Wheatland actually owns the recreation facilities in town, their operation and maintenance are the contractual responsibility of the District. Most of these facilities are located within Lewis Park. Table 2.6.2-22 presents an inventory of the area's recreation facilities, parks, and special use facilities. Complete information regarding construction costs, annual operation and maintenance costs, and the staffing of individual recreation facilities could be obtained only for the swimming pool. The pool complex was constructed 2 years ago at a cost of \$625,000. The pool currently employs 12 staff members and had a fiscal year 1982-83 operation and maintenance cost of \$28,500. Current facility needs were expressed by the District: construction of a centralized recreation center, additional ball-parks, and enclosing the pool to give it year-round programming capabilities. These needs are predicated on the expressed level of recent growth in program participation by area residents.

2.6.2.2.5.4 Special Use Facilities

A nine-hole golf course is located at the privately owned Wheatland Golf Club Center.

Table 2.6.2-22

INVENTORY OF EXISTING PARKS, RECREATION, AND SPECIAL USE FACILITIES WHEATLAND, WYOMING

Parks	Acres in Size	Ballfields	Tennis Courts	Picnic Area	Play- Ground	Swim- Outdoor	Golf Holes
North Fertig	3.36			-			
Black Mountain	4.57		2				
Lewis	20.43	3ª	4	-	-		
Derringer	5.0						
Undeveloped Area	0.3						
SUBTOTAL:	33.66	3ª	9	က	က		
Recreation Facilities See Lewis Park description							
Special Use Facilities Wheatland Golf Club Center							თ
TOTALS:	33.66	ო	9	က	ဇ		6

Note: a Two of the ballfields are lighted.

Source: Director of Platte County Parks and Recreation District; Town of Wheatland Purchasing Agent.

2.6.2.2.5.5 Other Recreational Opportunities

The Wheatland area contains a number of other recreational opportunities provided by other public agencies, private enterprise, and the area's natural amenities. These include the Black Mountain Recreation Center, the Senior Citizens Center, the State of Wyoming, Platte County School District No. 1, the Laramie River, and a limited number of commercial recreation facilities. The following provides a brief description of select recreational providers:

- o The Black Mountain Recreation Center is privately owned and located south of Wheatland's Lewis Park. The facility includes two tennis courts and an indoor swimming pool. This facility is accessible to the public for an entry fee.
- o The State of Wyoming operates and maintains two recreation areas north of Wheatland. Guernsey and Glendo state parks provide area residents with a number of outdoor recreation opportunities and are discussed in Section 2.6.2.1.
- o The School District provides the Platte County Parks and Recreation District with a number of facilities for recreational programs and itself provides an adult education program to residents.
- o Commercial recreation facilities include one bowling alley, an indoor movie theater, a drive-in theater, and a small health club. The health club offers racquetball, a small weight training area, and a sauna.

2.6.2.2.6 Chugwater, Wyoming

Chugwater's outdoor recreational facilities include a lighted baseball diamond with bleachers, a park with playground equipment and picnic tables, and a small rodeo arena located southeast of town. The Chugwater General Store, a popular meeting spot, provides an informal facility for indoor activities.

2.6.3 Visual Resources

2.6.3.1 Project Area Description

2.6.3.1.1 Natural Features

The landscape of the region is widely varied. Most of the area lies within the High Plains Physiographic Province. At the western edge of the ROI this province adjoins the Southern Rocky Mountain Province. A major portion of the area consists of treeless, semiarid land of relatively flat to gently or moderately rolling terrain. In most of Laramie and Kimball counties the landform is generally flat to gently rolling with agriculture serving as the primary land use (Figure 2.6.3-1). The landscape of Goshen County consists of low rolling hills intermixed with steep buttes and mesas in the south and highly dissected, strongly rolling mountains in portions of the north. Along the extreme western edge of Laramie and Platte counties the foothills of the Laramie Mountain range rise to the highest elevations within the ROI. They are exemplified by rugged, strongly dissected sloping mountains containing a variety of rock and landforms. Vegetation includes crop and rangeland at the

NATURAL FEATURES



FIGURE NO. 2.6.3-1



FIGURE NO.2.6.3-2

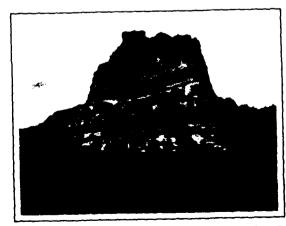


FIGURE NO. 2.6.3-3

eastern edge of the foothills to aspen and pine forest in the higher elevations (Figure 2.6.3-2). In the eastern edge of the ROI (Scotts Bluff and Banner counties), prominent rock outcrops and cliffs of high vertical relief rise to the south of the broad, agricultural valley of the North Platte River. Wildcat Ridge and the series of ridges which form Scotts Bluff National Monument are unique within the region (Figure 2.6.3-3). Figure 2.6.3-4 presents a contour map for landform reference within the ROI.

2.6.3.1.2 Cultural Features

Ranching activities throughout the ROI have given the landscape an overall pastoral setting. The use of the landscape varies but is primarily devoted to agricultural land uses including irrigated and dry farmed cropland and open rangeland (Figure 2.6.3-5). Access between major communities in the region is provided by a transportation network which includes Interstates 80 and 25, serving as the major east-west and north-south arterials; U.S. Highway 85, connecting the towns of Cheyenne and Torrington; and U.S. 26, the major east-west artery in the northern portion of the ROI.

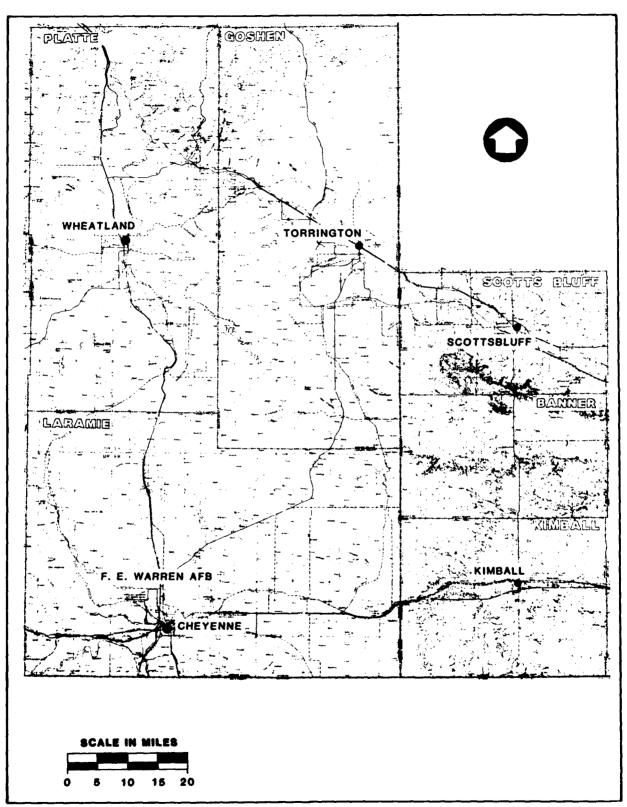
Industrial activity within Laramie and Platte counties has created intrusions which reduce the visual quality of the immediate surrounding area. Visual intrusions are defined as man-caused alterations that introduce discontinuity. Within Cheyenne, the Husky Oil Refinery introduces an industrial influence which transcends the residential character of the southeast section of town. In central Platte County, the Laramie River power generation plant of the Missouri Basin Power Project dominates the local landscape (Figure 2.6.3-6). In addition, the electrical lines which carry power from the plant extend the spatial impact of the intrusion far beyond the plant itself (Figure 2.6.3-7).

In the southeastern portion of the ROI (Kimball and Banner counties) oil and gas production are mixed with agricultural activities and detract from the overall pastoral character (Figure 2.6.3-8).

2.6.3.2 Visual Resource Management System

The VRM program takes what can be considered subjective (aesthetic judgment) components of the landscape and identifies consistent qualities that can be described and measured. The conclusions within the program are dependent upon the perceptions of the individuals performing the study. The perception of visual quality in the ROI is based on three principles:

- The character of the landscape is primarily determined by four basic visual elements: form, line, color, and texture. Although all four elements are present, they exert varying degrees of influence.
- o The stronger the influence exerted by these visual elements, the more interesting the landscape appears.
- The degree of visual variety present within the landscape determines how it will be perceived. However, variety without harmony detracts from the overall impression of the landscape.



REGION OF INFLUENCE CONTOUR MAP

FIGURE NO.2.6.3-4

CULTURAL FEATURES



FIGURE NO. 2.6.3-5



FIGURE NO. 2.6.3-6



FIGURE NO. 2.6.3-7



FIGURE NO. 2.6.3-8

2.6.3.2.1 Scenic Quality Inventory/Evaluation

The inventory/evaluation process consists of three steps: assessment of the visual (scenic) quality, use volume determination, and viewing distance designation.

Scenic quality is the overall impression retained after driving through, walking through, or flying over an area of land. During inventory, the area was divided into landscape segments that appeared homogeneous in terms of landform and vegetation. Each segment was rated for seven factors: landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification. A standardized point system assigned importance to each factor (Figure 2.6.3-9).

The values for each category were totaled and, according to points, three scenic quality class designations were derived. Scenic quality classes according to the BLM are Class A, which combines the most outstanding characteristics of each rating feature; Class B, which combines some outstanding features and some that are fairly common to the physiographic region; and Class C which contains features fairly common to the region.

All three scenic quality classifications are found within the ROI. Scotts Bluff National Monument, located directly south of the City of Scottsbluff is Scenic Class A (Figure 2.6.3-10). The northern portion of the ROI combines Class B and Class C. Most of Scotts Bluff County and the northern half of Banner County are Scenic Class B (Figure 2.6.3-11). Most of the land in the southern half of the ROI falls within Scenic Class C (Figure 2.6.3-12). In the western portion of the ROI, where the foothills of the Laramie Mountains rise from the plains, all three classifications occur. Figure 2.6.3-13 shows where these scenic classes occur within the ROI.

Use volume is determined by the frequency of travel through an area and use of that area. Volume was measured along the major transportation routes in average daily traffic (ADT) and at major recreational areas in visits per year. The combined results were assigned a high, medium, or low rating according to established BLM criteria. High use is defined as segments of travel routes or use sites which receive more than 200 vehicles per day or 200,000 or more visits per year. Medium use travel routes or use sites receive 20 to 200 vehicles per day or 20,000 to 200,000 visits per year. Low use travel routes or use sites receive less than 20 vehicles per day or 20,000 visits per year. Figure 2.6.3-14 shows use volume determination for the ROI.

Distance zones were determined in the field by driving along travel routes. The criteria for delineating the distance zones which follow were established by the BLM:

- o Foreground/Middleground Zone (FG/MG) The area that can be seen from the travel route for a distance of 3 to 5 miles where developed activities might be viewed in detail;
- o Background Zone (B) The remaining area that can be seen from the travel route from a distance of 3 to 5 miles to approximately 15 miles; and

Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modifications
High vertical relief such as prominent cliffs, spines or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	A variety of vegeta- tive types in inter- esting forms, tex- tures, and patterns	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the land-scape.	Rich color combinations, variety or vivid color, or pleasing contrasts in the soil, rock, vegetation, water or snow fields.	Adjacent scenery greatly enhances visual quality. 5	One of a kind: or unusually memor- able: or very rare within region. Con- isstent chance for exceptional widdlife or wildflower view- ing.	Free from esthetically undesirable or discordant sights and influences; or modifications add favorably to visual variety.
Steep canyons, mesas, buttes, cinder cones and drumins, or interesting erosional patterns or variety in size and snape of landforms; or detail features present and interesting though not dominant or exceptional.	Some variety of vegetation, but only one or two types. 3	Flowing or still, but not dominant in the landscape.	Some intensity or variety in colors and contrast of the soil, rock and vegetation, but not a dominant scenic element.	Adjacent scenery moderately en- hances overall visual quality 3	Distinctive though somewhat similar to others within the region. 2	Scenic quality is somewhat depreciated by inharmonious intrusions, but not so extensively that they are entirely negated: or modifications add little or no visual variety to the area.
Low. rolling hills. foothills or hat valley bottoms. Interesting, detailed landscape features few or lacking.	Little or no variety or contrast in vegetation.	Absent, or not noticeable.	Subtle color vana- tions, contrast or interest; generally muted tones.		Interesting within its setting, but fairly common within the region.	Modifications are so extensive that scenic qualities are mostly nullified or substantially reduced

Class A: Areas that combine the most outstanding characteristics of each rating factor (19-33 points). Class B: Areas in which there is a combination of some outstanding features and some that are fairly common to the physiographic region (12-18 points). Class C: Areas in which the features are fairly common to the physiographic region (0-11 points).

SOURCE: BLM Visual Resource Management Program

SCENIC QUALITY CLASSIFICATION

EXAMPLE OF CLASS A

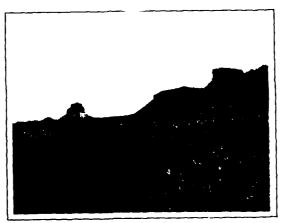


FIGURE NO. 2.6.3-10

EXAMPLE OF CLASS B

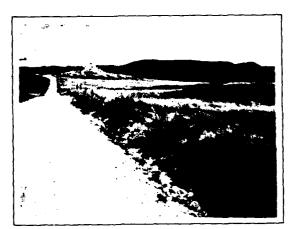


FIGURE NO. 2.6.3-11



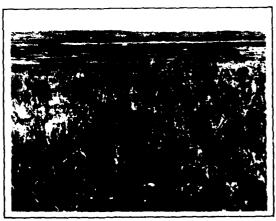
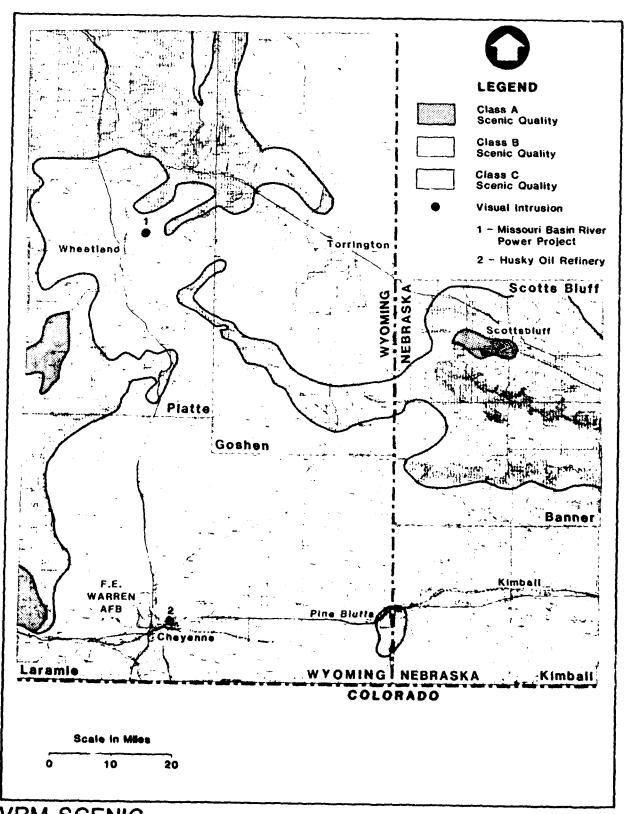
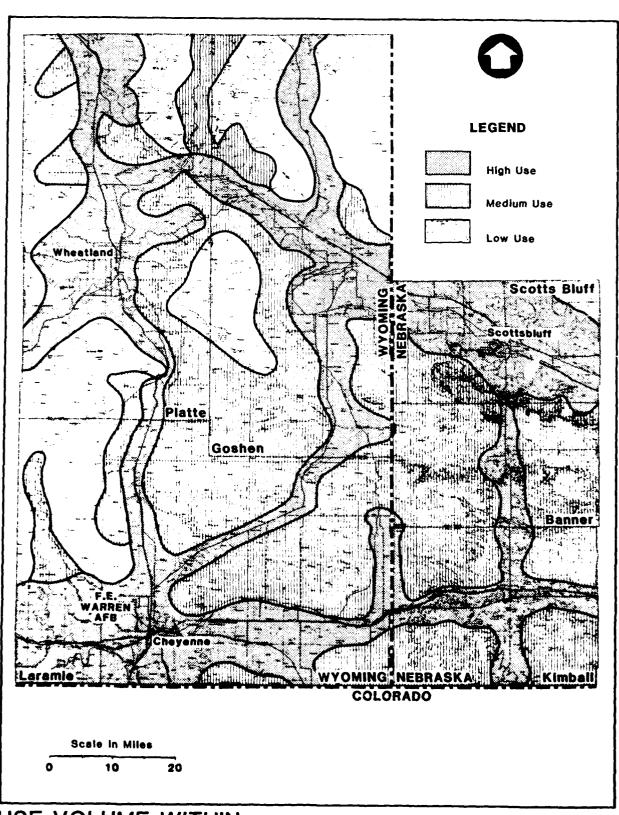


FIGURE NO. 2.6.3-12



VRM SCENIC
QUALITY EVALUATION

FIGURE NO. 2.6.3-13



USE VOLUME WITHIN THE REGION OF INFLUENCE

FIGURE NO. 2.6.3-14

Seldom Seen Zone (SS) - The area visible beyond approximately 0 15 miles from the travel zone.

An example of new the three components of the scenic quality inventory/evaluation process interrelate is shown in Table 2.6.3-1. For this segment of the ROI north of Cheyenne along Interstate 25 the importance of the individual factors was analyzed according to the criteria shown in Figure 2.6.3-9. The 7 factors were totaled to attain a score of 4, or Scenic Quality Class C. Use volume is high and the area of land seen from the travel route does not exceed 15 miles.

Table 2.6.3-1

VISUAL RESOURCE MANAGEMENT PROGRAM (Interstate 25 North of Cheyenne)

Scenic Quality Inventory/Evaluation

Landform Vegetation Water Color Adjacent Scenery Scarcity Cultural Modifications	Scenic Quality Class C Rating 1 0 1 0
Use Volume High	н
Distance Zones Foreground/Middleground Background	FG/MG,B

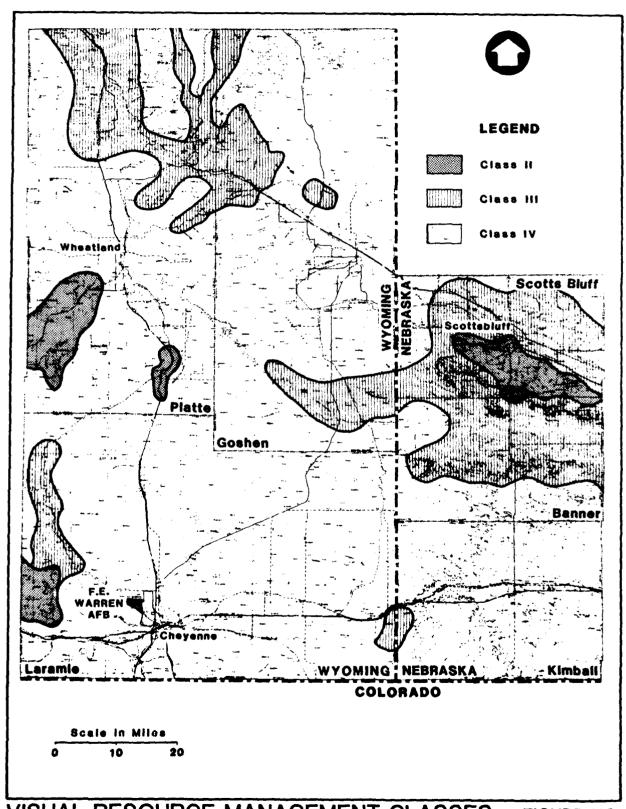
2.6.3.2.2 Visual Resource Management Classification

Visual Resource Management class designations are derived by combining the components of the scenic quality inventory/evaluation. By using the VRM class matrix reproduced in this paragraph (Figure 2.6.3-15), class designations are determined. This process produces a map which outlines areas with a similar combination of elements (Figure 2.6.3-16).

	USE VOLUME						
		high	1	m	<u>ediu</u>	m	low
special areas			1	1			
Ω₹A	11	Н	11	11	11	=	=
NA B	11	111	iV.	111	IV	IV	IV
<u>%</u> c	1	IV	IV	IV	2	2	V
DISTANCE ZONES	fg- mg	bg	SS	fg- mg	bg	SS	SS

FIGURE 2.6.3-15 VISUAL RESOURCE MANAGEMENT CLASS

The following VRM classes serve as an index to visual resource values and describe guidelines for acceptable levels of visual modification:



VISUAL RESOURCE MANAGEMENT CLASSES FIGURE NO. 2.6.3-16

- o Class I are those areas where natural ecological changes and very limited development are allowed. Any contrast created within the characteristic landscape must not attract attention.
- o Class II are those areas in which changes in any of the basic elements (form, line, color, and texture) caused by development should not be evident in the characteristic landscape. Contrasts may be seen but should not attract attention.
- o Class III are areas where contrasts to the basic elements caused by development may be evident and begin to attract attention. However, the changes should remain subordinate to the existing characteristic landscape.
- o In Class IV areas, contrasts may attract attention and be a dominant feature of the landscape in terms of scale; however, the change should repeat the elements inherent in the characteristic landscape.
- o Class V areas are those where change is needed or change may add acceptable visual variety to an area. The classification is applied to areas where the natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding landscape. Examples include large-scale strip mining or quarry operations which require reclamation.

Three management classes occur within the ROI, VRM Classes II, III, and IV. These are shown in Figure 2.6.3-16. In Class II areas, the most outstanding characteristics of each scenic quality rating factor are combined to form a landscape unique within the region. Within Class III areas the landform and vegetation variety combine some unique features with others fairly common to the region. The remainder of the ROI is designated as Class IV or areas in which no outstanding or unique features occur.

ENVIRONMENTAL CONSEQUENCES, MITIGATION MEASURES, AND UNAVOIDABLE IMPACTS

- 3.0 ENVIRONMENTAL CONSEQUENCES, MITIGATION MEASURES, AND UNAVOIDABLE IMPACTS
- 3.1 Analytic Methods
- 3.1.1 Land Use
- 3.1.1.1 Urban Land Use and Planning

3.1.1.1.1 Baseline Future - No Action Alternative

Since new housing will be the predominant cause of project-related urban land use changes, the Area of Concentrated Study (ACS) for urban land use includes those areas where population, housing, and related uses could have an impact on land use. Baseline land use requirements were projected for communities in order to make a comparison with project impacts that would occur in the ACS. The following analytic methods were used for the No Action Alternative.

Land required for future residential use was estimated. The required change in supply of single-family, multifamily, and mobile home units was multiplied by density factors based on local conditions and practices in order to estimate land needs. (Housing projections are contained in Section 3.5.2 of the Final Socioeconomics EPTR.) Land required for nonresidential uses was calculated using per capita standards multiplied by the annual change in population projected for each community. Vacant land absorption was then determined for each community.

The following residential densities were assumed for the land use projections:

(Units per Acre)

	Single Family	Multi- Family	Mobile Home
Cheyenne Urban Area	4	12	6
Wheat1and	5	8	8
Kimball	3	8	8
Pine Bluffs	3	8	8
Chugwater	5	8	8

Single-family densities were based on existing local conditions. Multifamily densities were based on local standards used for planning in the Cheyenne area, and for other communities a standard of 0.5 acres for a typical four-plex. Mobile home standards are based on 6 units per acre for mobile home parks built in urban areas (Cheyenne) and 8 units per acre (typical of smaller parks with fewer amenities and higher densities) in smaller rural communities.

The following densities were used for nonresidential uses: 1.75 acres per 1,000 increase in population for commercial land use; 12 acres per 1,000 increase in population for industrial; 10 acres per 1,000 increase in population for public and semipublic uses; 6 acres per 1,000 increase in population for parks (Cheyenne Urban Area), and 20 to 25 percent of all nonresidential uses (with the exception of parks) for streets. Local and national land development, planning, and design standards (Dechiara, 1982;

Briscose Maphis, Murray and Lamont, 1978; Nez, 1961) which have previously been applied in both gradual growth and boomtown situations were used for this analysis.

Population, housing and residential land use projected for the Cheyenne Urban Area were further allocated to neighborhoods using the methodology presented in Appendix B. Results for both baseline and impact conditions are presented. The spatial allocation results were then used by other resource groups to determine impacts within the urban area.

3.1.1.1.2 Proposed Action

The analytic methods used for the project are similar to those used for the No Action Alternative with some additions to address the project's decline cycle.

To determine absorption of vacant land, land requirements for both the baseline and project-induced populations were combined. If the supply of vacant land was depleted during the project's growth cycle, annexation greater than historical trends could be required or scattered development might be encouraged in unincorporated areas where costs for utilities and services would be higher.

The analytic method used to address the project's decline cycle looked at the potential for underutilization (also referred to as overbuilding) of developed land required for the project. The analysis estimated the amount of developed land in residential categories that would be underutilized (overbuilt) assuming that the market built to respond to the peak-year demand from the project. Underutilization was only identified in cases where the projected baseline demand would not grow fast enough to absorb new development created as a result of the project. Underutilization could result in decreased maintenance of properties (which could result in a public nuisance to adjacent landowners) and inefficient use of facilities and services (such as utilities systems or dedicated parkland), and could ultimately result in increased public costs or higher user fees.

Acreages of underutilization and vacant land absorption/depletion were then used to determine levels of impact. Acres of underutilization were compared with the highest recent (1970 to 1982) annual average vacancy rate for that residential use, using an acreage equivalent rather than units of housing. (Vacancy rates are presented in Section 3.2.2 of the Socioeconomics EPTR.) Once level of impact was determined based on these quantitative measures, a qualitative professional judgment was made to determine whether impacts were such that existing development controls needed to be examined. In some cases existing development controls could be used to mitigate projected impacts (e.g., underutilization might be controlled by not approving speculative developments) or might not be adequate to mitigate impacts. For the land use analysis, it was assumed that local officials would enforce existing plans, policies, and procedures and that future land development would be located where it is compatible with existing uses.

3.1.1.2 Rural Land Use and Agriculture

3.1.1.2.1 Baseline Future - No Action Alternative

Data collected for existing conditions provided the background from which future conditions were projected. Past trends and future projections of population are considered to be components of both rural residential and agricultural land development and as such were used to determine baseline conditions. Since any assessment of the future mix of agricultural and residential land use patterns is subject to changing management, market, and environmental conditions, a qualitative analysis was conducted for this study.

3.1.1.2.2 Proposed Action

3.1.1.2.2.1 Rural Land Use

Buried Cables. Siting of the buried cable network within the proposed mile-wide corridors will ultimately be determined by consideration of factors such as land ownership, management patterns, and physical terrain. Therefore, the analysis of land use impacts for the cable routes was intended to compare all 11 of the proposed alternatives rather than to recommend locations within each cable route. The following analysis was made:

- o Estimate the proportion of different agricultural land uses (i.e., irrigated, dry farm, and rangeland) within each mile-wide corridor using the existing conditions inventory.
- o Calculate the total acreage of land potentially disturbed by extension of a 35-foot cable right-of-way throughout the length of each mile-wide corridor using proposed centerline routes provided by the Air Force.
- For cable paths along existing road routes where powerline separation distances are required and cable emplacement could occur on either side of the roadway, assume a conservative analysis where the cable path would cross the largest amounts of first, irrigated cropland, then dry farming, and, finally, rangeland, in that economic order of value. These distances may however, be waived for certain segments of the actual cable routes.
- o Add in the amount of land uses potentially disturbed by reuse of existing rights-of-way (for the two Minuteman cables) that could be utilized for the proposed cable in corridors PAI and SBI.
- Rank the 11 cable routes on the basis of the amount of irrigated, dry cropland, and rangeland disturbed, assuming that acreage types would be weighted according to the assessed value of the 3 agricultural land uses: irrigated cropland at \$34.15 per acre, dry cropland at \$11.49 per acre, and rangeland at \$4.95 per acre (Wyoming Department of Administration and Fiscal Control 1981).
- Rank the pathways on the total amount of agricultural land disturbed.

- o Examine the five Proposed Action alternatives, the six remaining alternatives, and the five worst-case alternatives using the methods described above.
- o Identify the duration of land disturbance as temporary or permanent.
- o Analyze land use changes in relation to the overall character of the area to determine level of impact.

Quantity Distance Zones. Land affected by the proposed Quantity Distance (QD) zones surrounding each of the Launch Facilities (LFs) was analyzed in relation to the amount of land area and inhabited structures affected, the specific nature of the restrictions to residential land use, and the options available to affected landowners.

Launch Facilities. For purposes of the impact analysis, it was assumed that all permanent modifications to LFs would occur on public land within existing fencelines, that the use would not change, and that there would be little impact on agricultural land uses; therefore, no impact analysis was required.

Transporter/Erector Roads. Modifications to transporter/erector (T/E) roads within the Deployment Area (DA) were assumed to occur within existing road rights-of-way with no change in existing use; therefore, no impact analysis was required.

3.1.1.2.2.2 Agriculture

Impacts to agricultural resources were evaluated using the following methodology. Based on the data and analysis which resulted in the description of existing environment for agricultural resources in Section 2.0, general agricultural practices, potential impact issues, and mitigation measures were identified. The identification of these occurred primarily during discussions with resource management agency personnel and with farm and ranch operators. The areas of discussion have been generally summarized into the following categories:

- Farm and ranch practices in the region, including methods of seeding and harvesting, irrigation practices, types of crops grown and their local and seasonal distribution; types of cattle operations, methods, and cattle breeds; range improvement practices, carrying capacities, and productivity; general farm size and type of farm operations, and overall hazards to farm operations and productivity, including: hail, livestock road kills, dust pneumonia, and cattle rustling. The timing of activities on farms and ranches was also evaluated.
- Agricultural utilization of rural roads was also explored. Possible benefits and impacts of road upgrading activities; traffic characteristics during cattle and wheat market transportation seasons; wheat combine utilization of roads; and where traffic increases or obstruction has, in the past, affected agricultural usage of roads.

- o Minuteman and Atlas missile construction in the past was also reviewed, including how construction may have influenced farm and ranch operations, the restoration of areas disturbed at that time, and how the Air Force has dealt with rural landowners and is perceived by them.
- o General potential impacts to farm and ranch operation were also identified during this phase. These included erosion and drainage problems, increases in trespassing, and increased trips to check on herds during construction activities.
- Communication cable construction impacts were also addressed since these will occur on crc and angeland. Cable-burying methods were discussed along with ! replacement, cable pathway design and placement criteria, cable placement on slopes, potential for erosion, and general reclamation criteria.
- o Possible mitigations were also explored, including: coordination with landowners; notification prior to construction; regulating Air Force and subcontractor personnel behavior; limiting the time construction crews spent on landowners property; using techniques appropriate to the region; and methods and basis for compensation for lost crops and livestock.

3.1.2 Recreation

3.1.2.1 Regional Recreation

3.1.2.1.1 Baseline Future - No Action Alternative

The No Action baseline scenario was developed by converting the measurement units that various agencies use to define existing conditions (i.e., visitors, visitor days, activity days, etc.) into one consistent set of visitation units, thereby allowing a valid comparison of recreation areas. Activity-day units were selected for use in this analysis since they can be converted from the population-based usage rates the Wyoming Recreation Commission (WRC) uses to predict participation. Because project impacts on regional recreation were based on Wyoming populations, Wyoming rates were used. An activity day is defined as a single occurrence of a recreational activity lasting for any period of time up to 12 hours. One person engaging in 5 different activities at a particular site during 1 day would account for 5 activity days.

The methodology used to convert visitation data into activity-day units varied by recreational jurisdiction since measurement units were jurisdictionally different. Where possible, data were supplemented by opinions of recreation managers knowledgeable about the region, onsite observations, and professional judgment to make the conversions. Details of the conversion process are provided in Appendix C.

After all visitation values had been made compatible, no attempt was made to forecast them to the peak or settlement years; that is to say, it was assumed for purposes of this analysis that existing visitation levels would continue to exist during the peak year (1987) and settlement year (1991), the two years for which the impact analysis was performed. Visitation tends to exhibit

broad swings from year to year depending upon a wide variety of factors such as population shifts, economic conditions, social and demographic characteristics, weather, recreational facility conditions (addition of new areas or alterations to existing ones), etc., that affect the amount of use received by an area. The assumption that existing conditions will be applicable in the peak and settlement years has the effect of holding all other parameters constant and varying population only. What is important to this analysis is that, although it is recognized that some changes in visitation are likely by 1987 and then again by 1991, relative visitation levels are expected to remain essentially the same. For example, it is anticipated that visitation levels at Rocky Mountain National Park and most National Forest System lands will continue to be significantly higher than at all other areas. Similarly, the various state parks are likely to continue having higher visitation levels than game and fish areas. Since baseline visitation values are used only as inputs to a gravity allocation model used to forecast project-induced visitation, existing values adequately reflect expected recreation area visitation Details of the gravity allocation model are provided in relationships. Appendix C.

3.1.2.1.2 Proposed Action

Project impacts on the regional recreation system are related to the estimated increase in population that occurs within the Cheyenne Urban Area, Wheatland, and Torrington as a result of the project (the three communities that together account for the largest annual average inmigrant population in absolute numbers during project peak year). While it is acknowledged that other communities will experience inmigrant population influx during the course of the project, these three communities will contribute most of the potential increase in recreation pressure in 1987. As population increases, so does the demand for recreational participation at the various recreation areas within the Region of Influence (ROI). The methodology used for determining the increase in recreational demand involved two basic steps: first, the total induced recreational participation by activity was calculated for the Cheyenne Urban Area, Wheatland, and Torrington, and, second, each activity participation total was allocated to individual recreational areas within the ROI.

Total induced recreational participation by activity during peak year (1987) and settlement year (1991) was determined by applying forecast activity participation rates to project-impact population levels for the 2 years. The activity participation totals were then allocated to the various recreational areas within the ROI using a computerized gravity allocation model. The details of both processes are provided in Appendix C.

3.1.2.2 Local Recreation

3.1.2.2.1 Baseline Future - No Action Alternative

The methodology used to analyze the No Action baseline alternative was based directly on changes (increases or decreases) in the population. An increase in population normally will result in increases in participation at various recreation areas and facilities. In the absence of data to the contrary, it was assumed for the baseline analysis that both participation rates and usage patterns would continue at their present rates for the foreseeable future even with new people coming into the community.

For parkland and facilities, the existing conditions analysis was extended to describe baseline conditions. For the parkland analysis, a proposed standard of 6 acres of neighborhood parkland per 1,000 individuals was applied to baseline projections. The analysis determined the additional parkland which might be necessary. In addition, it was necessary to locate specific neighborhoods currently undersupplied with parkland which were expected to receive a large percentage of the baseline population increase. For the facility needs analysis the eight categories considered included baseball, softball, volleyball, basketball, soccer, tennis, golf, and swimming. Facilities standards from the National Recreation and Parks Association (NRPA) and State Comprehensive Outdoor Recreation Plans (SCORPs) were converted to ratios describing the demand for facilities per 1,000 population. Each ratio was then multiplied by the population projections for the No Action Alternative to determine additional facility needs. Working with parks and recreation departments and/or current budget information, both full and part-time personnal figures were converted days. nel figures were converted to a total equivalent of full-time employees. By dividing each city's current population by the total full-time equivalent (FTE), the existing ratio of parks and recreation employees per 1,000 population was derived. This ratio was then multiplied by the population projections for the No Action Alternative to determine additional staff needs.

3.1.2.2.2 Proposed Action

The methodology for the three components of the local recreation analysis followed the same process used to describe the baseline scenario, but added project population forecasts to cumulative baseline projections.

3.1.3 Visual Resources

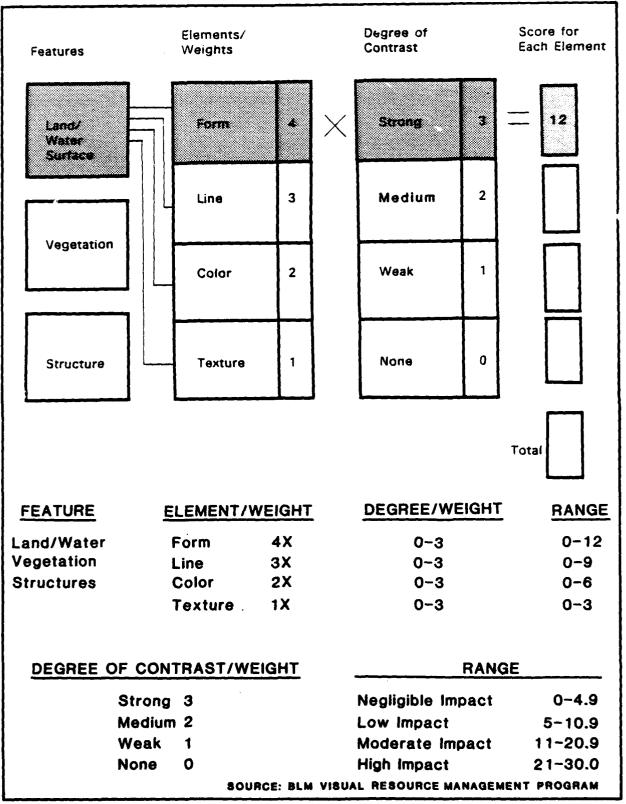
3.1.3.1 Baseline Future - No Action Alternative

To antityze future trends, known projects or major proposed activities were considered with respect to landscape modification or the introduction of visual intrusions that might alter existing conditions or visual resources. None were found to be applicable.

3.1.3.2 Proposed Action

The method for predicting impacts of the proposed project on visual resources measured the degree of visual contrast between proposed project activities and the existing landscape. A modified version of the Bureau of Land Management (BLM) Contrast Rating System was used for this purpose.

The Contrast Rating System reveals the features that will cause the highest visual impact. It serves as a guide to effective methods to reduce visual impacts associated with project development. According to the system, detecting contrast in the basic elements of the landscape varies on a weighted scale ranging from 4 (form) to 1 (texture). An indication of the strength of contrast is determined by assigning a different weight to the degree of contrast (3 for strong, 0 for none) and multiplying it by the assigned weight of each element. When these are totaled, an indication of the visual impact for each landscape feature (land/water surface, vegetation, and structures) is attained. This process is repeated for each of the features separately (Figure 3.1.3-1 graphically depicts how the system works). The scores are



BLM CONTRAST RATING SYSTEM

FIGURE NO. 3.1.3-1

then totaled and averaged to attain an overall indication of the degree of contrast associated with the proposed development. This total score is then compared with the following criteria according to the feature's assigned visual resource management classification to determine if it meets BLM objectives.

 $\overline{\text{Class I:}}$ The degree of contrast for any one element should not exceed a weak degree of contrast and the total contrast rating for any feature should not exceed 10 points.

<u>Class II</u>: The degree of contrast for any one element should not exceed a medium degree of contrast, and the total contrast rating for any feature should not exceed 12 points.

<u>Class III</u>: The degree of contrast for any one element should not exceed a medium degree of contrast and the total contrast rating for any feature should not exceed 16 points.

Class IV: Total contrast rating for any feature should not exceed 20 points.

Class V: Serves as an interim classification for rehabilitation of an area. Based upon its indicated potential Visual Resource Management (VRM) Class (I, II, III, or IV) after rehabilitation, it should meet the appropriate degree of contrast of selected class.

At this point the BLM Contrast Rating System was modified to assign a specific level of impact (from negligible to high) according to the point total. Section 3.3.3 provides the methodology used to determine the level of impacts.

- 3.2 Assumptions and Assumed Mitigations
- 3.2.1 Assumptions
- 3.2.1.1 Land Use
 - 3.2.1.1.1 Urban Land Use and Planning

The following assumptions were made for urban land use:

- O Current local housing preferences would continue during the baseline growth period.
- In most cases temporary population growth would create demand for additional development of land that might include some speculative building.
- Vacant land absorption in Cheyenne was analyzed using the assumption that the 1971 to 1982 average annual annexation of 100 to 200 acres per year would continue throughout the project period, although efforts to encourage infill would occur. For the smaller communities, annexation is possible but has not been assumed to occur on an annual basis, consistent with local trends.

o Future development would be located where it would be compatible with existing uses and conform to adopted plans and policies.

3.2.1.1.2 Rural Land Use and Agriculture

The following assumptions were made about rural land use and agriculture:

- O Construction activities at all transporter/erector (T/E) roads were assumed to occur within publicly owned land and agricultural uses would not be affected;
- o Public roads would be exempted from the 1,050 foot QD requirement;
- o Project construction activities could occur at any time;
- o Safety measures to protect livestock would be provided, including maintenance of fence enclosures to prevent straying and minimizing the length of time excavated trenches remain open;
- o Crop damage or delay in farming practices would be minimized and disturbed areas would have erosion control measures implemented; and
- o The Air Force and its subcontractors would use techniques consistent with good engineering practice and appropriate to the site and region.

3.2.1.2 Recreation

3.2.1.2.1 Regional Recreation

Assumptions employed in assessing the impact on regional recreation resources were that:

- o An ROI having a 150-mile radius centered on Cheyenne would capture most of the regional recreation demand generated from Cheyenne, Wheatland, and Torrington. This demand relates only to 1 or 2-day recreational excursions.
- o Existing visitation levels at individual recreation areas would apply during the peak year (1987) and the settlement year (1991).
- o Project-induced population would participate in various recreational activities with the same frequency as current state residents.
- o Ninety-five percent of the total induced demand for each activity generated in Cheyenne, Wheatland, and Torrington would occur at the regional recreation areas identified within the ROI.
- o Project-induced population in Cheyenne, Wheatland, and Torrington would be more likely to travel to Wyoming recreation areas than those in Colorado or Nebraska, reflecting current predilections.

3.2.1.2.2 Local Recreation

Assumptions employed in assessing local recreation resources were that:

- o Recreation standards provided by the NRPA, the SCORPs, and the Greater Cheyenne Recreation Commission (GCRC) are applicable to the affected communities and can be used to describe existing and future conditions.
- The eight facility categories cover the principal local recreation activities in Cheyenne: baseball, softball, soccer, basketball, volleyball, tennis, golf, and swimming.
- o Existing staff levels are adequate to administer, operate, and maintain parks and recreation facilities, given current budgetary constraints.

3.2.1.3 Visual Resources

No assumptions were made for the visual resources analysis.

3.2.2 Assumed Mitigations

3.2.2.1 Land Use

3.2.2.1.1 Urban Land Use and Planning

The only assumed mitigation for urban land use is cooperative community planning by project representatives, government agencies, and community groups.

3.2.2.1.2 Rural Land Use and Agriculture

For the analysis of the QD zones, the only assumed mitigation is that fair market value and relocation benefits will be paid, as legally mandated, for those persons required to vacate the QD zones.

For buried cable installation, it is assumed that the listed cable installation construction practices will be followed:

- The integrity of irrigation canals and structures shall be preserved or provision shall be made for alternative facilities which would not alter the amount or timing of flow required for crop production.
- The Air Force shall require all subcontractors to notify landowners before starting construction activities on or adjacent to their land. The Air Force shall coordinate government and subcontractor activities with landowners to prevent impeding access to fields and along adjacent rural roads.
- O Alternate roads shall be provided for any road blockage prior to construction start.

- o Safety measures for protection of personnel and livestock during trenching operations shall be taken.
- o For buried cables, minimum depths shall be:
 - 36 inches normal and rocky terrain;
 - 42 inches cultivated land; and
 - 60 inches irrigated land districts and lands under private irrigation.
- Excess rock brought to the surface during excavation shall be moved to other locations so as not to interfere with future farming operations.
- o Prior to laying of communication cables, the trench shall be partially filled with a minimum of 4 inches of selected backfill. After the cable has been emplaced within the trench, a minimum of an additional 4 inches of selected backfill shall be placed around the cable.
- A maximum of 18 inches and a minimum of 12 inches of backfill compacted to a density of 100 percent of the original soil density shall be installed over the 4 inches of selected backfill. Remaining backfill is placed with a density of 90 percent of the original soil density.
- Owners of the land crossed by cable routes will be compensated for the easements required to install and maintain the cable system. The U.S. Government will pay for any cash crops destroyed as a result of cable laying activities, and pay for or perform, at the Government's option, ground restoration.
- After cable laying the landowners shall have full access to the easement area and all normal agricultural/ranching activities may continue as before. The Air Force will maintain, repair, and remove cable lines within the easement.
- o All fences crossing cable rights of way shall be provided with gates.

After construction of the buried cables, post construction activities are assumed to include:

- o Where trees and brush are cut, the remaining stumps shall be removed and surface restored after cable installation and backfill operation has been completed.
- o The surface of rights-of-way shall be restored to the original condition or better.
- o Disturbed areas shall have erosion control measure implemented.
- o Reseeding and mulching of grazing areas disturbed by construction shall be accomplished.

o Topsoil and associated seed resources shall be restored.

3.2.2.2 Recreation

3.2.2.2.1 Regional Recreation

No mitigation measures were assumed for the regional recreation analysis.

3.2.2.2. Local Recreation

No mitigation measures were assumed for the local recreation analysis.

3.2.2.3 Visual Resources

The following are assumed mitigations:

- o Reestablishment of landforms to original character;
- o Placement of plant material to screen or blend proposed buildings with the landscape;
- Revegetation with appropriate plant species;
- o Implementation of erosion and dust control measures; and
- O Design of new base facilities to conform to existing architecture, and painting to blend with landscape.

3.3 Level of Impact Definitions

3.3.1 Land Use

3.3.1.1 Urban Land Use and Planning

The levels of impact (LOI) for urban land use and planning consider two factors: absorption of developable vacant land and the potential for underutilization of developed land. While infill is generally desirable, total depletion of vacant land could result in a need for annexation or encourage scattered development in unincorporated areas where costs for utilities and services would be high. An underutilization of developed land could result in reduced maintenance of properties and inefficient use of utilities and services, thereby creating a financial burden on local government and/or local taxpayers. The analysis of LOI and significance for urban land use assumes that uses will be located where they are compatible and will follow adopted land use plans, policies, and regulations.

LOI for urban land use are:

- Negligible Impact Will result in no change in land use beyond baseline projections or will cause only minor reductions in the supply of vacant developable land.
- O Low Impact Will cause changes in land use that would substantially reduce the supply of vacant developable land during the growth cycle

or create an underutilization of developed residential land during the decline cycle that is less than the highest recent average annual residential vacancy rate (recent \approx 1970 to 1982).

- Moderate Impact Will cause changes in land use that either deplete the supply of developable vacant land or create an underutilization of developed residential land that exceeds the highest recent average annual residential vacancy rate.
- o High Impact Will cause changes in land use that deplete the supply of vacant developable land and create underutilization of developed residential land that exceeds the highest recent average annual residential vacancy rate.

3.3.1.2 Rural Land Use and Agriculture

The LOI for rural land use consider the amount, type, and duration of direct land use impacts projected for the proposed project in relation to the character of the area in which the impact occurs. The definition takes into account potential interruptions or changes in existing uses (as in the case of temporary interruption of agricultural land use from construction of the proposed cable routes) and restrictions on current and future land uses (as in the case of restrictions on residential uses within the QD zones).

Indirect project impacts for agriculture refer to agricultural productivity, not necessarily in a monetary sense, but defined as management practices or actions which serve to facilitate an economic return from the land, applicable to both farming and grazing operations. For this analysis, three components comprehensively address potential impacts to agriculture. They are: 1) access to local roads and property, particularly during critical times such as planting and harvesting periods; 2) animal husbandry, such as the protection of livestock from hazards and the assurance of reproductive success; and 3) agricultural measures undertaken to maintain and improve crop and livestock values such as erosion control, strip-cropping, and pasture rotation.

LOI associated with rural land use and agriculture are:

- o Negligible Impact Little change in the land use and character of the area or in agricultural productivity.
- o Low Impact An interruption or restriction of land use that will not change the character of the area but will result in some interference with agricultural productivity.
- Moderate Impact An interruption or restriction of land use that will change the character of the area on a temporary basis and will decrease agricultural productivity.
- High Impact A permanent change in the land use and character of the area, precluding agricultural productivity.

3.3.2 Recreation

3.3.2.1 Regional Recreation

LOI definitions for regional recreation areas are based on changes in the perceived quality of the recreational experience at those areas. The changes in perceived quality are, in turn, associated with project-related increases in population and the relative ability of recreational areas to absorb increases in recreational participation demand. Problems such as over-crowding, activity conflicts, traffic congestion, littering, loss of serenity, law enforcement problems, etc., are all linked to increases in visitation and can result in declines in perceived quality of the recreational experience.

The LOI associated with regional recreation are:

- o Negligible Impact Will result in immeasurable, minimal, or no effects on the perceived quality of the recreational experience.
- O Low Impact Will result in increased visitation pressure but without a noticeable decline in perceived quality of the recreational experience.
- o Moderate Impact Will result in an occasional noticeable decline in perceived quality of the recreational experience.
- o High Impact Will result in a frequent noticeable decline in perceived quality of the recreational experience.

3.3.2.2 Local Recreation

Local recreation impacts are defined in terms of the additional incremental load on parkland, recreation facilities, and staffing over projected baseline conditions.

The LOI definitions for local recreation are:

- Negligible Impact Will result in minor impacts not requiring new parkland, facilities, or staffing above projected baseline values. No capital expenditures or increases in operations or maintenance costs will be required.
- O Low Impact Will result in impacts not requiring any additional parkland, facilities, or staff. No capital expenditures will be required, but there will be increased operations and maintenance costs.
- Moderate Impact Will result in impacts requiring redesign of existing parkland, additional part-time staff, or upgrading of existing facilities. Capital expenditures will be required for upgrading parks and/or facilities, as well as increased operations and maintenance costs.
- o High Impact Will result in impacts requiring the construction of new facilities, additional full-time staff, or the purchase of

additional parkland. Capital expenditures will be required for acquisition or development of parkland and/or facilities in addition to increased operations and maintenance costs.

3.3.3 Visual Resources

The methodology used to determine the magnitude of impacts is based on the BLM Contrast Rating System. Landscape elements are segmented and rated, assigned a weight, and combined and averaged to obtain a total feature rating. This results in the following LOI:

- Negligible Impact Assigned to a feature in which three of the four elements have no degree of contrast (0-4 points).
- o Low Impact Assigned to a feature whose four elements have weak degrees of contrast (5-10 points).
- o Moderate Impact Assigned to a feature whose four elements have medium degrees of contrast (11-20 points).
- o High Impact Assigned to a feature in which at least one element has an overall strong degree of contrast and whose total point range is greater than 21, exceeding the BLM's objective for total contrast ratings (21-30 points).

3.4 <u>Significance Determination</u>

3.4.1 Land Use

3.4.1.1 Urban Land Use and Planning

Significance is a function of the LOI and its interaction with the context in which the impact occurs. For urban land use any one or a combination of the following could determine significance:

- o Whether the impact affects public health or safety;
- o Whether the impact is likely to be highly controversial;
- o Whether the impact compels land development in ways not expressly intended and is therefore inconsistent with adopted plans and policies;
- o Whether the impact threatens the violation of some federal, state, or local law or requirements imposed for the protection of the environment, or public health and safety; and
- o Whether institutional responses to the impact will need to be extensive, or are beyond institutional capacity to respond.

3.4.1.2 Rural Land Use and Agriculture

The significance determinations for rural land use and agriculture are the same as for urban land use and planning.

3.4.2 Recreation

Significance is a function of the LOI and its interaction with the context in which the impact occurs. For recreation any one or a combination of the following could determine significance:

- o Whether the impact affects public health or safety;
- o Whether the impact is likely to be highly controversial;
- o Whether the action or its impact challenges or threatens the violation of some federal, state, or local law or requirements imposed for the protection of the environment; and
- o Whether institutional response to the impact will need to be extensive.

3.4.2.1 Regional Recreation

For regional recreation, an impact is significant if public health or safety is affected. Safety is related to the potential for injury to oneself or others in overcrowded situations that may create unsafe conditions. These conditions occur when space is limited for an activity and there is too much demand for that space, or when the same space is used for conflicting activities.

3.4.2.2 Local Recreation

The determination of whether an impact within the overall local parks and recreation system will be considered significant is based on the ability of the system to provide recreational opportunities at levels that do not fall below existing conditions and/or threshold standards. An impact which will have little or no effect on the ability of institutions to provide services at an existing or standard level will be considered not significant. It would be significant if major agency responses such as raising taxes or floating a bond issue were required to respond to the identified need.

3.4.3 Visual Resources

Landscape features which have a high visual impact (i.e., features which depict a strong degree of contrast and exceed BLM contrast rating objectives of greater than 21 points) are significant because of the spatial extent to which they are noticeable.

3.5 <u>Environmental Consequences of the No Action Alternative and Proposed Action</u>

3.5.1 Land Use

3.5.1.1 Urban Land Use and Planning

Population and housing projections that form the basis for baseline and project land use impacts in communities are presented in Section 3.1.1 of the FEIS (population) and Section 3.5.2 of the Socioeconomics EPTR (housing).

Abstract land use standards have been used to project land requirements for analysis purposes. These standards may, however, overestimate actual amounts of land developed to accommodate future growth, given recent population declines and existing capacity in certain communities and land use categories.

3.5.1.1.1 Baseline Future - No Action Alternative

3.5.1.1.1.1 Cheyenne, Wyoming

Under baseline conditions, Cheyenne's population is projected to grow by approximately 12,330 persons from 1984 through 1992, creating additional demand for approximately 5,000 single-family housing units, 3,200 multifamily units, and 600 mobile homes. This would result in a demand for approximately 1,014 acres of residential land use (818 acres of single-family, 93 acres of multifamily, and 103 acres of mobile home uses) and 694 acres of nonresidential land use (22 acres of commercial, 148 acres of industrial, 74 acres of parks, 123 acres of public and semipublic use, and 327 acres of streets). Commercial development is currently overbuilt according to standards, and may not require as much land in the future as per capita standards indicate.

Adequate amounts of vacant land would be available to absorb this new demand assuming recent local annexation trends. There were about 1,500 acres of vacant land within the city of Cheyenne in 1982. Baseline demand would total 1,708 acres from 1984 through 1992 (Table 3.5.1-1). Assuming 200 acres per year of annexation in these years, there would be 1,592 acres of vacant land remaining in 1992 without the project. Between 150 and 450 acres of this amount could be either undevelopable or restricted for development due to floodplains and excessive slopes.

Table 3.5.1-1

BASELINE VACANT LAND DEMAND BY LAND USE CATEGORY CHEYENNE URBAN AREA (1984-1992) (Acres)

Land Use Category	Demand
Single Family	818
Multifamily	93
Mobile Home	103
Commercial	22
Industrial	148
Parks	74
Public and Semipublic	123
Streets	327
TOTAL:	1,708

3.5.1.1.1.2 Other Communities

Baseline growth in population and housing from 1984 through 1992 would create additional demand for 89 acres of developed land in Wheatland, 14 acres in Kimball, 25 acres in Pine Bluffs, and 12 acres in Chugwater (Table 3.5.1-2).

These amounts are within local capacities and would not result in adverse land use impacts.

In the communities of Wheatland and Chugwater, where population has recently declined, future land development may be less than projections based on abstract standards, due to some existing capacity.

Table 3.5.1-2

BASELINE VACANT LAND DEMAND BY LAND USE CATEGORY
OTHER COMMUNITIES (1984-1992)
(Acres)

Land Use Categories	Wheatland	<u>Kimball</u>	Pine Bluffs	Chugwater
Single Family	38	7	15	6
Multifamily	5	1	1	1
Mobile Homes	3	1	1	1
Non-Residential	43	5	8	4
•				
TOTAL:	89	14	25	12

3.5.1.1.2 Proposed Action

3.5.1.1.2.1 Cheyenne, Wyoming

Based on population influx and net housing demand from the project, there is a projected demand for 167 acres of vacant urban land in Cheyenne in addition to baseline needs. Between 1984 and 1987, the project demand years, the requirement would be 109 acres for nonresidential uses, 33 acres for single-family residential, 1 acre for multifamily residential, and 24 acres for mobile home use. Table 3.5.1-3 shows year-to-year change in demand by land use category for 1984 through 1987, the growth cycle years of the project.

Residential demand could result in infill of platted vacant lots which would be viewed as beneficial by the City. Multifamily residential demand (only lacre) should be no problem. The absorption of 167 acres of vacant land needed for the project would leave a remainder of 1,425 vacant acres in the city in 1992, of which 150 to 450 acres could be either undevelopable or restricted from development due to environmental constraints.

Mobile home development is most likely to occur in South Cheyenne where large parcels of land with R-3 zoning, (the only zone other than the Floodway Fringe Zone in which this use is permitted) are found. Although there is vacant lanu zoned R-3 within the city of Cheyenne, the majority of this land is not suitable for mobile homes because it is within subdivisions platted for conventional single-family housing. Mobile homes must be located in parks of at least 5 acres in size. Parcels of a larger size, zoned R-3, have been identified within the city but are largely undevelopable due to floodplain or topographic restrictions.

During the project's decline cycle, project-induced population would gradually decrease from a peak of 2,650 in 1987 to a stable population of 925 in 1991

Table 3.5.1-3

PROPOSED ACTION VACANT LAND DEMAND, YEAR-TO-YEAR-CHANGE CHEYENNE URBAN AREA (1984-1987) (Acres)

Land Use	1984-1985	1985-1986	1986-1987	1987-1988	T0TAL 1984-1987
Single-Family Residential	0	0	23.25	10.00	33.25
Multifamily Residential	0	0	0.48	0.24	0.72
Mobile Homes	0	7.99	13.60	2.55	24.14
Commercial	0.52	1.97	1.70	0.44	4.63
Industrial	3.56	13.48	11.63	3.01	31.68
Parks	1.70	6.50	5.50	2.10	15.80
Public and Semipublic	2.97	11.23	69.6	2.51	26.40
Streets	1.76	8.67	15.09	4.69	30.21
TOTAL:	10.51	49.84	80.94	25.54	166.83

Projections for commercial, industrial, parks, and public uses apply per capita requirements and do not account for existing differences or overages in specific land use categories or locations within the Urban Area. Zeroes for residential land use indicate that housing demand from the project can be met by existing vacancies. Note:

and beyond. If the market responds by building to meet peak-project demand, overbuilding could occur and 1 acre of land developed for mobile homes would potentially be underutilized during 1990. Table 3.5.1-4 presents projections of the number of acres of residential land that could be underutilized. Underutilization is projected with the assumption that baseline change in housing demand would reduce the excess supply of housing due to the project. Therefore, underutilization is only identified in cases where the baseline housing demand would not be sufficient to absorb excess supply (vacancies) created by the project.

Depending upon the amount of underutilization that takes place, public concern could arise due to decreased maintenance of properties and inefficient use of utilities and services. In some cases this could lead to increased public costs or higher rates and fees to pay for ongoing maintenance of facilities or infrastructure built to support new development. Properties affected might not be those built in response to the project but could be older properties that are not competitive due to price, location, or quality.

The underutilization potential during the project's population decline cycle results in a low impact in the short term, since vacant land would not be depleted. The long-term impact is negligible, however project-related infill could be a beneficial impact. Both short and long-term impacts are not significant.

In addition to population-induced land use changes in the Cheyenne Urban Area, there are road-modification alternatives which could affect land use. Implementation of the R1 and R2 proposed road alternatives to achieve better and safer access to F.E. Warren AFB would involve raising either one or two bridges, lowering a roadbed, or using a realigned portion of Happy Jack Road. The realignment of Happy Jack Road has been proposed by state and local transportation officials independently of the Peacekeeper project. Information on design options and transportation impacts from the road modification alternatives can be found in Section 2.1.9 and 3.1.9 of the FEIS. Applying the L0I definitions for urban land use, the impacts for R1 and R2 would be negligible since vacant land would not be depleted and underutilization would not occur.

Alternative R3 would require approximately 8 acres of land for a new interchange at Round Top Road and Interstate 80. If the interchange was built and used largely by traffic generated by the base, it might be underutilized much of the time. The impact is considered low and not significant.

There are three proposals for dispatch stations in the DA. The first includes two dispatch stations, one each in the northern and eastern portions of the DA. Although specific locations have not yet been identified, the EIS analyzed locations in the vicinity of Chugwater, Wyoming (northern area) and Kimball, Nebraska (eastern area) as representative communities for possible dispatch stations. This represents the Proposed Action. Alternatives to this action include either a single dispatch station in the eastern portion of the DA or no dispatch stations. Dispatch stations may be established for the purpose of providing check-in points for personnel, vehicle dispatching, overnight parking, and distribution of supplies. Dispatch stations will be temporary and will consist of office space, enclosed storage space, and parking for up to 100 vehicles. The area of dispatch stations may range from

Table 3.5.1-4

PROPOSED ACTION - UNDERUTLIZATION OF DEVELOPED RESIDENTIAL LAND CHEYENNE URBAN AREA

				9	1985 - 1985	1985	1986	1985 - 1986	1986
		1984		1300	Dominod	Under-		Required	Under-
	7	Required	Under- utilization ³	Demand	Supply	Utilization	Demand	Supply	Utilization
Land Use Category	Demand	7,4400		0	0	0	23.25	23.25	0
Single Family	0	o (, c	, c	0	0	.48	.48	0
Multifamily	0 (5	o C	7,99	7.99	0	21.59	13.6	0
Mobile Home TOTAL:	o •		. 0	7,99	7,99	0	45,23	37.33	0
		1986	1986 - 1987	1988	1987	1987 - 1988	1989	1986	1986 - 1989
	136	Required	Under-	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Utilization
:	Demoind 23 CC	10.00	0	26.50	0	0	23,50	0	J
Single Family	33.65	8 70	0	0	0	0	0	0	9
Multifamily	2/.			20.40	a	0	19.21	0	0
Mobile Home TOTAL:	58.11	12.79	0	46.90	0	0	42.71	0	o
	0001	1989	1989 - 1990	1991	0661	1990 - 1991	1992	1661	1991 - 1992
	Demand	Required	Under- Utilization	Demand	Required	Utilization	Demand	Supply	Utilization
Single Family	0	0	0	0	0	0	0	0	o °
Multifamily	0	0	0	0	0	0	0 ;	5	5 C
Mobile Home	5.95	0	1.02	4.25	0	0	3.91	-	, c
TOTAL:	5.95	0	1.02	4.25	o	0	3.91	a	•

Notes: I Demand is the amount of developed land, by type of use, required by the project.
2 Required Supply is annu? I increases in the developed land required by the project.
3 Underutilization is vacancy of structu. al improvements to land resulting from the decline cycle of the Proposed Action which cannot be absorbed by baseline demand.

1 to 5 acres. The dispatch station alternatives would have a negligible impact since they would be designed for temporary use and are assumed to be located in industrial or otherwise compatible areas.

3.5.1.1.2.2 Other Communities

During the growth cycle, project-related demand for vacant land is projected to be 16 acres in Wheatland, 10 acres in Kimball, 9 acres in Pine Bluffs, and 3 acres in Chugwater based on housing densities and per capita standards for nonresidential land. Table 3.5.1-5 shows vacant land demand by type of land use for these communities. Table 3.5.1-6 shows projected vacant land absorption and the supply of vacant land remaining following cumulative impacts from baseline and project growth. Vacant land is available in each of these communities to absorb projected growth.

Underutilization is the second factor that determines the level of impact for Tables 3.5.1-7 through 3.5.1-10 present projected land use. underutilization for other communities. During the decline cycle, underutilization of land developed for residential uses due to the project could occur. In Wheatland between 1 and 2 acres of land developed for multifamily housing could become underutilized in 1987, but would be absorbed in 1990. Because this rate of underutilization is less than the highest recent annual average vacancy rate for the town, there would be a low, not significant impact in the short term. The long-term impact would be negligible. In the city of Kimball, underutilization of approximately 1 acre of land used for mobile homes would occur starting in 1990 which would continue past 1992 due to the projected absorption of between 0 and 0.12 acres per year under baseline growth. There would be a low, not significant impact for Kimball, generated in the short term, having a long duration. Pine Bluffs is projected to experience underutilization of between 1 and 2 acres each for multifamily and mobile home uses, starting in 1989 and continuing past 1992. Baseline absorption of each of these uses is 0 to 0.12 acres annually, or approximately 1 unit every 2 years. Because this rate of underutilization exceeds the highest annual average vacancy rate for each of these uses, a moderate impact is generated in the short term, having a long duration. The impact would not be considered significant.

Starting in 1986, Chugwater could have an underutilization of 0.12 acres (one unit) of mobile homes, which would be absorbed by 1988. This amount is considered to be within the margin of error for housing and land use projections and therefore results in a negligible impact since neither vacant land depletion or measureable underutilization would occur.

3.5.1.2 Rurai Land Use and Agriculture

3.5.1.2.1 Baseline Future - No Action Alternative

A comparison of 1974 and 1978 Census of Agriculture data (U.S. Department of Commerce 1981a, 1981b), indicates that the number of farms in the 6-county region decreased in all locations except Banner County where the increase was slight, 3.7 percent. Scotts Bluff and Goshen counties, the two most agriculturally productive counties in the ROI, both showed increases in the number of acres farmed. However, decreases in acreages farmed in the other five counties amounted to approximately seven times this amount. Additionally, during

Table 3.5.1-5

PROPOSED ACTION VACANT LAND DEMAND - YEAR-TO-YEAR CHANGE OTHER COMMUNITIES (ACRES)

	1984-1985	1985-1985	1986-1987	1987-1988	1988-1989
Wheatland					
Single Family Multifamily Mobile Home Non-Residential	0 0 0 6.68	0 1.44 0 7.78	0 0 0 0	0 0 0 0	0 0 0 0
TOTAL:	6.68	9.22	0	0	0
Kimba ll					
Single Family Multifamily Mobile Home Non-Residential	0 0 0 0	0 0 0 0.15	0 0 0.12 1.81	0 0 0 0.89	0 0 0.96 5.58
TOTAL:	0	0.15	1.93	0.89	6.54
Pine Bluffs					
Single Family Multifamily Mobile Home Non-Residential	0 0 0	0 .12 .36 .86	0 0 0 0	0 1.68 1.08 5.14	0 0 0 0
TOTAL:	0	1.34	0	7.90	0
Chugwater					
Single Family Multifamily Mobile Home Non-Residential	0 0 0.72 1.67	0 0 0 0.03	0 0 0 0.03	0 0 0 0.89	0 0 0 0
TOTAL:	2.39	0.03	0.03	0.89	0

Table 3.5.1-6

BASELINE AND PROJECT-RELATED VACANT LAND ABSORPTION

	Vacant Land Supply 1983	Projected Annexation (1984-1992)	Projected Vacant Land Absorption 1984-1992 (Baseline)	Projected Vacant Land Absorption (Project)	Vacant Land Remaining 1992
Cheyenne Urban Area	1,494	1,800	1,708	167	1,419
Wheatland	1,244	0	89	16	1,139
Kimball	196	0	14	10	172
Pine Bluffs	802	0	25	9	769
Chugwater	16	0	12	3	1

Table 3.5.1-7

PROPOSED ACTION - UNDERUTILIZATION OF DEVELOPED RESIDENTIAL LAND TOWN OF WHEATLAND

		1984		1985	1984	1984 - 1985	1986	1985	1985 - 1986
Land Use Category	Demand	Required Supply ²	Under- Utilization ³	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
H ultifamily	0	0	0	0	0	0	1.44	1.44	0
Mobile Home	0	0	0	0	0	0	0	0	0
T0TAL:	0	0	0	0	0	0	1.44	1.44	0
	1987		1986 - 1987	1988	1987	- 1988	1989	1988 -	- 1989
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	1.44	0	0	1.20	0	0	.12
Mobile Home	0	0	0	0	0	0	0	0	0
TOTAL:	0	0	1.44	0	0	1.20	0	0	.12
	1990	1989	- 1990	1991	1990	1990 - 1991	1992	1991	- 1992
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	c	0	0	0
Mobile Home	0	0	0	0	0	0	0	0	0
TOTAL:	0	0	0	0	0	0	0	0	0

Notes:

Demand is the amount of developed land, by type of use, required by the project.
Required Supply is annual increases in the developed land required by the project.
Underutilization is vacancy of structural improvements to land resulting from the decline cycle of the Proposed Action which cannot be absorbed by baseline demand.

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PROPOSED ACTION - UNDERUTILIZATION OF DEVELOPED RESIDENTIAL LAND CITY OF KINBALL Table 3.5.1-8

		1984		1985	1984	1984 - 1985	1986	1985 - 1986	- 1986
Land Use Category	Demand	Required Supply?	Under- Utilization ³	Demand	Required	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	0	0	0	0
Mobile Home	0	0	0	0	0	0	0	0	0
TOTAL:	0	0	0	0	0	0	0	0	0
	1981	1986	1986 - 1987	1988	1987	1987 - 1988	1989	1988	1988 - 1989
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	0	0	0	0
Mobile Home	.12	.12	0	0	0	.12	1.08	96.	0
T0TAL:	.12	.12	0	0	0	.12	1.08	96.	0
	1990	1989	1989 - 1990	1991	1990	1990 - 1991	1992	1661	1991 - 1992
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	0	0	0	0
Mobile Home	0	0	96.	0	0	.84	0	0	.84
TOTAL:	0	0	96.	0	0	.84	0	0	.84

Motes: I Demand is the amount of developed land, by type of use, required by the project.
2 Required Supply is annual increases in the developed land required by the project.
3 Underutilization is vacancy of structural improvements to land resulting from the decline cycle of the Proposed Action which cannot be absorbed by baseline demand.

PROPOSED ACTION - UNDERUTILIZATION OF DEVELOPED RESIDENTIAL LAND TOWN OF PINE BLUFFS Table 3.5.1-9

		1984		1985	1984	1984 - 1985	1986	1985 - 1986	1986
land Use Category	Demand1	Required Supply ²	Under- Utilization ³	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	O	0	0
S. Jeifamily	0	0	0	0	0	0	.12	.12	0
Martine Home		0	0	0	0	0	.36	.36	0
T0TAL:	0	0	0	0	0	0	8	.48	0
	1987	1986	1986 - 1987	1988	1987	1987 - 1988	1989	1988 - 1989	- 1989
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	1.68	1,68	0	0	0	1.56
Mobile Home	0	0	.24	1.08	1.08	0	0	0	1.08
T0 TAL :	0	0	.24	2.76	2.76	0	0	0	2.64
	1990	1989	1989 - 1990	1991	1990	1990 - 1991	1992	1661	1991 - 1992
	Demand	Required	Under- Utilization	Demand	Required	Under- Utilization	Demand	Required Supply	Under- Utilization
Sinole Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	1.44	0	0	1,44	0	0	1.32
Mobile Home	0	0	96	0	0	.84	0	0	84
T0TAL:	0	0	2,38	0	0	2.28	0	0	2.16

Notes: 1 Demand is the amount of developed land, by type of use, required by the project.
2 Required Supply is annual increases in the developed land required by the project.
3 Underutilization is vacancy of structural improvements to land resulting from the decline cycle of the Proposed Action which cannot be absorbed by baseline demand.

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PROPOSED ACTION - UNDERUTILIZATION OF DEVELOPED RESIDENTIAL LAND TOWN OF CHUGMATER Table 3.5.1-10

		1984		1985	1984 - 1985	- 1985	1986	1985 - 1986	- 1986
Land Use Category	Demand ¹	Required Supply	Under- Utilization ³	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	0	0	0	0
Mobile Home	0	0	0	.72	.72	0	.36	0	.12
TOTAL:	0	0	0	.72	.72	0	.36	0	.12
	1987	1986	1986 - 1987	1988	1987 - 1988	- 1988	1989	1988	1988 - 1989
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilizatio	Demand	Required Supply	Under- Utilization
Single Family	0	0	0	0	0	0	0	0	0
Aultifamily	0	0	0	0	0	0	0	0	0
Mobile Home	.36	0	.12	0	0	0	0	0	0
T0TAL:	.36	0	.12	0	0	0	0	0	0
	1990	1989	1989 - 1990	1991	1990 - 1991	- 1991	1992	1991	1991 - 1992
	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization	Demand	Required Supply	Under- Utilization
Single Family	. 0	0	0	0	0	0	0	0	0
Multifamily	0	0	0	0	0	0	0	0	0
Mobile Home	0	0	0	0	0	0	0	0	0
TOTAL:	0	0	0	0	0	0	0	0	0

Motes: 1 Demand is the amount of developed land, by type of use, required by the project.
2 Required Supply is annual increases in the developed land required by the project.
3 Underutilization is vacancy of structural improvements to land resulting from the decline cycle of the Proposed Action which cannot be absorbed by baseline demand.

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the same 4-year period, the average value of land and buildings in all farms throughout the region increased approximately 62 percent on the average by farm and 64 percent by acre.

Population census data show that all counties in the ROI except Banner and Kimball gained population from 1970 to 1980. Further examination of the data, however, indicates that the growth appears to be directed towards rural population centers. A tally of "rural places" (defined by the Census as places of 1,000 to 2,500 population, places less than 1,000 population, and other rural areas) shows a decline in population between 1970 and 1980 for all counties except Scotts Bluff (0.9 percent increase) but nearly all incorporated places within the ROI (excluding the larger urban centers of Cheyenne and Scottsbluff/Gering) show increases in population for the period, although absolute numbers are small (U.S. Department of Commerce 1981c, 1981d).

The increased cost of farms and ranches as well as the fewer number of farms suggest a parallel to the national agricultural trend toward more corporate ownership, increased tenancy operations, and a reduction in the numbers of small, family-operated farms (Brown 1980). As farmers, ranchers, and their families move to nearby small towns or the Cheyenne/Scottsbluff urban areas, it might be anticipated that some increase in urban land uses over agricultural ones might occur. Baseline changes among agricultural uses (e.g., conversion of dry farming to irrigated) are not expected to be important due to general market factors and limited opportunity for further development of available water resources, particularly in eastern Laramie County.

3.5.1.2.2 Proposed Action

Buried Cables. Land use impacts from cable-trenching operations relate to the potential interference with the cultivation and harvesting of irrigated and dry farmed cropland as well as a potential reduction in the amount of natural and/or cultivated forage available for grazing animals. In addition, potential changes in subsurface soil moisture retention capacities and drainage characteristics are possible. Cable trenching on irrigated cropland could potentially disrupt the 160 acres normally associated with center pivot system, if cable placement required extension through such operations; effects may be more localized on cropland under furrow irrigation. Once cable placement and construction mitigation activities are completed, landowners will have full access to the cable easements for normal ranching and farming operations.

The 5 Proposed Action routes (RB1, SB1, PA1, PA4, and PA5) impact approximately 16.1, 107.8, and 213.8 acres of irrigated, dry farmed, and rangeland agricultures, respectively (Table 3.5.1-11). The 6 alternative cable routes (RB2, PA3, PA2, PB1, SB2, and PD1) impact approximately 42, 158.9, and 281.4 acres of irrigated, dry farmed, and rangeland agriculture, respectively. The 5 cable routes whose cumulative agricultural impacts represent a worst-case analysis (RB1, PA4, PA5, PD1, and SB2) involve approximately 43.6, 197.3, and 269.1 acres of irrigated, dry farmed, and rangeland agriculture, respectively. In either case, the total amount of agricultural land (337.7 acres for the 5 Proposed Action routes and 510 for the worst-case scenario) are small in comparison to the amount of agricultural land contained in the ROI. Because there will be an interruption of agricultural land uses in the short term (but the character of the area will not be

Table 3.5.1-11

BURIED CABLE CORRIDOR POTENTIAL IMPACTS (acres)

F	Route	Irrigated	Dry Farm	Rangeland	<u>Total</u>
1.	PA1 ^{a,b}	0.0	3.8	1.7	5.5
2.	RB2	0.0	11.9	39.2	51.1
3.	PA3	1.1	11.3	49.1	61.5
4.	PB1	4.0	9.6	66.0	79.6
5.	PA2	0.0	27.6	37.0	64.6
6.	SB1 ^{a,b}	9.0	8.5	32.5	50.0
7.	RB1 ^b	4.2	5.8	86.0	96. 0
8.	PA4	1.9	46.2	39.3	87.4
9.	PA5 ^b	1.0	43.2	54.6	98.8
10.	PD1 ^b	22.7	31.1	60.3	114.1
11.	SB2	13.8	71.0	28.9	113.7

Notes: a Route follows existing Minuteman cable location.

b Proposed Action routes.

changed) the LOI for the five project cable routes will be low in the short term and negligible in the long term.

Quantity Distance Zones. For planning purposes, QD requirements for the project are 1,050 feet to public traffic routes and 1,750 feet to inhabited buildings. It is assumed that exemptions will be granted for public roads as is the case for the current Minuteman system. The Air Force will acquire a restrictive easement over the area from 1,200 feet (current easement) to 1,750 feet which will preclude new inhabited structures. Other uses, such as agriculture, will not be affected.

Nine of the 100 LFs have inhabited structures within the standoff distance. These include C-7 and C-10 in Banner County; D-4, D-9, and E-5 in Kimball County; E-9, E-11, and Q-5 in Laramie County; and T-5 in Platte County. All of the inhabited structures are associated with large farm complexes which have additional uninhabited farm support buildings nearby. The Air Force has contacted these nine homeowners to inform them that they are within the Quantity Distance zones used for planning purposes. Once the final Quantity Distance is established, these nine homeowners will be informed in detail of the risks associated with their location. The homeowners were informed of the three options described below and invited to suggest others.

- 1) Sell their residence and the associated farm improvements to the Air Force while keeping ownership of the land subject to the Air Force restrictive easement. The Air Force will pay fair market value for the structures and the reduction in the value of the property resulting from the easement. These values will be determined by professional appraisers from the local area if available, otherwise those familiar with the local realty market, and be subject to negotiation with the owner. Relocation benefits will also be paid as authorized by law. The Air Force will commission and pay for the appraisals.
- 2) Sell only their house to the Air Force at its fair market value and use the proceeds to build a new residence adjacent to the farm complex but outside the QD area. If the location of the new residence diminishes the use of the remaining farm improvements, the Air Force will again pay severance damages. The owner will be given the opportunity to move his or her present house outside the QD area if he or she wishes.
- Those families who would like to remain undisturbed may request to remain and the Air Force will process a request to the Secretary of the Air Force for an exemption. Each exemption request will be considered on a case-by-case basis. Each homeowner who requests to remain will be required to acknowledge in writing the nature of the circumstances for the establishment of the safety zone, that the Air Force is willing to acquire the structures and provide relocation assistance as provided by law, and a clear statement of his or her desire to remain nonetheless. The homeowner does not waive his legal rights by this action.

Restrictions on future residential use would affect a total of approximately 22,000 acres in the QD zones surrounding the 100 affected LFs. However, the

major portion of this land is already restricted due to the QD requirements associated with the Minuteman system. Although there will be a restriction on future residential use, agriculture and the use of agriculturally related (nonresidential) buildings could continue within the QD zones. Since the overall character of the area will not change, there will be a low impact in the short term and of long duration at the site level.

Launch Facilities. Impacts of LF modifications would be negligible and not significant in both the short and long term since government/public use would continue and the character of the area would not change due to the potentially very small amounts of agriculture which could be affected.

Transporter/Erector Roads. Impacts of T/E road modifications would be negligible in both the short and long term since transportation-related uses would continue within the existing rights-of-way and the character of the area would not change although small amounts of agricultural land use which encroach road rights-of-way may be affected in localized instances. Improvements and upgrading of existing roads would be beneficial to the regional transportation system and could allow additional access to rural areas in the ROI.

Impedance of Access. Impedance of access to fields would result primarily from increases in traffic on rural roads (discussed in detail in Section 3.1.9.4.1.2 of the FEIS), and secondarily from buried cable construction activities. Impedance of access could affect both farming and ranching activities. Farming activities potentially affected include tilling, cultivating, fertilizing, weeding, and irrigating. Livestock activities potentially affected include breeding, calving, branding operations, and moving herds for pasture rotation. Local roads are occasionally utilized for crop harvests and livestock herding and market transport. The principal ROI crop of winter wheat is usually custom-combined and trucked to nearby grain elevators for shipment. Livestock are typically taken off rangeland and fed in private feedlots for a time prior to being herded into holding pens and chutes for truck transport to market. Impedance resulting from project construction activities would be particularly critical if the seasonal chutes for truck transport to market. activities described above were delayed.

The impacts would be expected to occur during road modification and, to a lesser extent, during cable trenching. The LOI is low in the short term but significant since the potential to affect economic return is present (especially during the critical periods of harvest and planting), established avenues for compensation are not clear, and the impacts are, therefore, likely to be highly controversial.

Animal Husbandry. Impacts involving animal husbandry refer to the possibility of livestock falling into open cable trenches; straying; and stress effects associated with dust (such as teeth abrasion or dust pneumonia), vehicular movement, and noise; and road kills. The potential for vehicle collisions with livestock is somewhat higher in Wyoming where unfenced grazing lands are allowed. Cattle are thus more likely to be found on roadways and traffic increases assume greater importance. The impacts would be expected to occur during LF and road modification, and cable trenching. The LOI is low in the short term and negligible in the long term and not significant since construction activities are localized, are of short duration, and in most cases, opportunities exist for livestock to avoid the disturbances.

With respect to stress effects, dust levels as a result of project activities are not expected to be of any measurable quantity above existing background levels (Appendices C and D of the Air Quality EPTR).

Agricultural Practices. Impacts involving agricultural practices refer to field maintenance activities such as irrigation networks, erosion control measures, and range improvement programs. Two possible effects resulting from cable trenching were identified: 1) trenching through portions of fields could have the potential to affect the management possibilities of remaining lands; and 2) subsequent land improvements (such as stock ponding) after cable emplacement may require special design and placement modifications due to the presence of the buried cable. The impacts are considered to be low and not significant because they are localized, but present on site in the short term and of long duration since the effects continue through the life of the project.

3.5.2 Recreation

3.5.2.1 Regional Recreation

3.5.2.1.1 Baseline Future - No Action Alternative

The discussion of environmental consequences of the No Action Alternative is limited to the ACS of Laramie, Albany, Platte, Goshen, and Carbon counties in Wyoming. However, activity-day estimates of visitation for recreation areas both within and outside the ACS were used as recreation area attractiveness factors in the gravity allocation model.

Under the No Action baseline scenario, existing trends at recreational areas are assumed to continue with visitation and participation remaining approximately equal to present levels. Medicine Bow National Forest would continue to be the most important recreational resource in the ACS, drawing visitors from throughout the West and Midwest, as well as the rest of the United States. National wildlife refuges would continue to experience relatively low levels of utilization while most smaller recreation areas would continue primarily to serve local communities.

In terms of baseline activity days as shown in Table 3.5.2-1, Medicine Bow would exceed all other recreational resources in the ACS by a ratio of approximately 2.5 to 1 under assumed baseline conditions. The Medicine Bow Unit of the Forest would remain the most utilized area in all activities except off-road vehicle (ORV) use. In terms of activity days, camping would remain the most popular activity at the Forest followed by picnicking, fishing, snowmobiling/cross-country skiing, hunting, and hiking/horseback riding. Adequate capacity would continue to exist at the Forest during most of the year.

Wyoming state parks would continue to have a relatively high level of utilization, particularly Glendo State Park. Camping would remain the most popular activity, followed by fishing, picnicking, and boating. Boating activity would continue to concentrate at Glendo. High visitation would continue on peak summer weekends, bringing these areas close to overcapacity. Activity days at Wyoming Game and Fish Department (WGFD) areas would continue to be relatively low except for Lake Hattie, Twin Buttes Reservoir, and Wheatland

Table 3.5.2-1
BASELINE VISITATION AT RESOURCE-BASED RECREATION AREAS
IN THOUSANDS OF ACTIVITY DAYS (Existing Conditions)

					Activities	ties					
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Hiking/ Horseback Riding	Snowmobiling, Cross Country	9/ 0RV Use	Total
Rocky Mountain National Park	749.0	200.0	45.0	1	72.5	i	1	625.7	14.6	I	957.8
Medicine Bow National Forest (Pole Mountain Unit)	104.8	49.8	1	i	73.9	38.1	ł	54.0	26.4	5.1	352.1
Medicine Bow National Forest (Medicine Bow Unit) ¹	160.8	133.2	12.9	4.0	118.9	113.6	24.3	81.9	153.9	8.0	811.5
Medicine Bow National Forest (Hayden Unit)l	84.6	79.2	i	ł	22.5	14.4	0.6	12.6	3.8	8.7	234.8
Medicine Bow National Forest (Laramie Peak Unit)	38.2	81.0	I	1.6	26.7	23.3	ļ	27.9	32.2	22.7	
Thunder Basin National Grassland	4.1	14.4	l	4.8	13.8	23.5	į	2.4	7.9	5.7	76.6
Arapaho National Forest	644.5	425.4	890.4	25.6	410.7	164.6	47.4	661.8	362.4	112.3	3,745.1
Roosevelt National Forest	824.5	1,136.4	378.8	51.2	784.8	122.9	95.4	829.5	215.0	112.3	4,550.8
Routt National Forest	427.8	156.0	17.8	5.6	522.3	221.5	15.0	304.2	231.1	87.3	2,048.6
Pike National Forest	736.1	654.0	í	44.0	339.0	111.1	22.5	822.3	35.3	569.7	3,334.0
White River National Forest	1,418.9	460.2	3,327.4	38.4	565.2	418.6	175.2	940.8	377.8	17.4	7,799.9
Pawnee National Grassland	8.4	36.6	1	1	0.3	18.5	ı	5.1	1	0.6	69.5
Nebraska National Forest	5.0	37.8	1	I	4.2	13.2	1	5.7	١	41.4	107.3
Oglala National Forest	5.2	37.2	1	i	3.9	13.2	1	0.9	l	9.9	72.1
North Platte National Wildlife Refuge	I	1.2	1	9.0	1.5	ł	0.0	6.0	. 1	Į.	5.1
Bamforth National Wildlife Refugel	ļ	1	I	1	1	1	1	0.6	1	1	0.0

Table 3.5.2-1 Continued
BASELINE VISITATION AT RESOURCE-BASED RECREATION AREAS (Existing Conditions)
(In Thousands of Activity Days)

			ļ		Activities	ies					
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Hiking/ Horseback Riding	Snowmobiling/ Cross Country	ORV Use	Total
Hutton Lake National Wildlife Refugel	1	١	1	ł	}	ł	I	0.5	į	i	0.5
Crescent Lake National Wildlife Refuge	ļ	١	ı	J	0.2	0.8	t	1	1	ı	0.1
Arapaho National Wildlife Refuge	1	1	. 1	1	0.1	0.2	1	1	I	ı	0.3
BLM (Niobrara, Natrona, Converse, Goshen, Platte) ¹	2.0	3.6	į	ı	9.6	229.1	ł	1.0	3.8	1.5	250.0
BLM (Laramie, Albany, Carbon) ^l	362.5	30.4	1	9.0	189.6	94.6	31.2	10.4	21.7	58.7	799.9
BLM (Eagle)	5.3	1	ļ	ı	4.1	6.79	8,3	1	21.3	5.0	111.9
BLM (Routt, Moffat)	4.5	ı	J	ł	5.0	31.9	1.0	J	2.0	1.1	45.5
BLM (Jackson)	1	1	J	ł		7.0	}	}	1	0.9	13.0
BLM (Grand)	2.0	ł	1	ł	10.1	26.2	44.0	J	į	i	82.3
Curt Gowdy State Parkl	98.7	49.7	}	ı	86.2	i	16.6	18.2	j	2.5	271.9
Glendo State Parkl	262.2	74.8	ı	72.0	114.7	1	101.6	23.3	ı	7.0	655.6
Guernsey State Park ¹	164.7	73.8	ţ	65.4	13.8	Į	67.9	24.7	l	5.1	403.4
Seminoe State Park ¹	23.4	4.3	ţ	3.1	10.8	ł	4.8	1.8	1	9.0	48.8
Alsop Lakel	i	1	i	ļ	3.5)	ł	1	Í	ì	3.5
Gelatt Lakel	0.1	1	i	ł	2.2	0.2	1	1	1	1	2.5
Grayrocks Reservoirl	0.1	ļ	ı	l	0.5	0.2	0.1	ł	i	1	6.0
Hawk Springs Reservoirl	i	J	ı	ł	1.0	j	ì	1	t	ì	1.0
Johnson Lakel	ı	1	ł	1	0.7	}	}	l	ı	}	0.7
Johnson Reservoir #3 ¹	Ī	0.2	1	0.2	4.5	0.1	0.1	ł	ł	i	5.1
Lake Hattiel	3.6	1	}	4.3	18.3	1	7.8	i	i	į	39.6

Table 3.5.2-1 Continued BASELINE VISITATION AT RESOURCE-BASED RECREATION ARFAS (Existing Conditions) (In Thousands of Activity Days)

					Activities	ies					
			1	1				Hiking/ Horseback	Snowmobiling/ Cross		,
Recreational Areas	Camping	Picnicking	Skiing	Swinning	Fishing Hunting	Hunting	Boating	Riding	Country	ORV Use	Total
Laramie Peak Wildlife	1.0	!	١	i	0.7	6.0	ł	1	i	1	1.7
Unit	:				ď	!	į	į	}	ł	3.2
Laramie River ^l	0.4	i	i	i	0.7	!					0
Loscophy Lakel	j	i.	ţ	i	2.0	ì	i	(i	ł	0.3
Mobbon 1 skol	3.3	1	i	i	9.9	0.1	2.8	ł	}	ş	12.8
בהבחסבו במצב											
North Platte River (Glendo Power Plant	Ċ	!	1	í	1.4	0.1	*	1	}	ţ	1.8
Site).			(1	0.2	1	0.4	ł)	1	0.7
Packers Lakei	 	Ī			-	·	1)		9.0
Rawhide Creek 1	;	1	r 4	1	 5	?	۱ .	l			6.5
Rock Lakel	١	ì	*		0.3	0.1	0.1	ļ	ì	}	;
Springer Wildlife Unit ^{1,2}	4.6	4.6	!	1.0	0.3	4.6	4.6	i]	1	19.7
Table Mountain	0	I	i		0.2	1.9	i	İ	1	I	2.3
Wildlite Unit.	•			~	25.0	1	2.8	1	ļ	1	33.0
Twin Buttes Reservoir ¹	3.6	١	!	2:			3			į	1.4
Wheatland Reservoir #11	0.3	0.3	!	:	0.5	1	6.0	i	1		7 40
Wheatland Reservoir $\#3^{1}$	7.0	:	!	i	13.5	ì	7.0	1	1	Į.	6.12
Pennock Mountain Wildlife Unit ¹	ı	0.1	i	•		0.5	1	0.1	ł	ì	0.7
Wick Brothers Wildlife	4.0	0.1	1		1.0	1.0	ì	0.1	í	!	9.6
Unit. Colorado State Forest	17.7	1.4	}	ł	8.02	!	0.2	8.6	1	I	55.9
Barbour Ponds State Recreation Area	12.0	25.8	•	ı	54.7	1	6.0	4.8	(!	98.2
Boyd Lake State Recreation Area	8.5	15.5	1	i	16.1	i	17.9	9.0	l	i	58.6

Table 3.5.2-1 Continued BASELINE VISITATION AT RESOURCE-BASED RECREATION AREAS (Existing Conditions) {In Thousands of Activity Days}

					Activities	ies			1		
					:	1		Hiking/ Horseback	Snowmobiling/ Cross	_	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	lota
Barr Lake State Recreation Area	{	55.9	i	i	33.5	1	4.3	31.2	4	ı	124.9
Castlewood Canyon State Recreation Area	1	17.0	i	•	;	1	(32.8	1	ļ	49.8
Chatfield Reservoir State Recreation Area	6.95	224.9	1	66.5	578.6	į	36.8	230.5	!	1	1,167.2
Cherry Creek State Recreation Area	24.2	232.2	1	151.1	6.115	ĺ	79.2	121.6	!	ł	886.2
Jackson State Recreation Area	29.0	39.7	<u> </u>	13.4	79.5	ſ	15.3	2.1	ì	!	179.0
Eldorado Canyon State Park	ł	15.1	1	3.0	1.8	ı	ì	58.7	}	i	78.6
Golden Gate Canyon State Park	24.8	185.1	1	i	98.6	í	1	94.5	}	!	403.0
Steamboat Lake State Park	44.7	14.2	i	÷	41.5	ţ	5.3	1.6	١	I	107.3
Lory State Park	0.2	6.5	1	0.6	31.2	1	0.2	16.4	ì	1	55.1
Lake Minatare State Recreation Area	143.2	119.3	;	71.6	95.4	į	35.8	6.0	2.7	6.0	430.0
Chadron State Park	110.4	0.56	1	55.2	13.6	1	97.7	4.6	2.0	4.6	370.0
Fort Robinson State Park	178.1	148.4	1	69.68	118.7	i	44.5	7.4	3.3	1.4	8.96.8
Box Butte Reservoir State Recreation Area	32.4	0.15		16.2	21.6	!	8.1	1.3	0.6	1.3	6.861
Bridgeport State Recreation Area	81.0	67.5	ļ	40.5	54.0	Ì	20.3	3.4	1.5	3.4	971.6
Lake McConaughy State Recreation Area	1.161	159.3	i	45.6	127.4	-	47.8	8.0	3.5	8.0	640.7
Wildcat Hills State Recreation Area/Wildlife Management Area	£.					5. B		7		i	11.3

Table 3.5.2-1 Continued BASELINE VISITATION AT RESOURCE-BASED RECREATION AREAS (Existing Conditions) (In Thousands of Activity Days)

					Activities	ies	1	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			
			1					Hiking/	Snowmobiling	/6	
Recreational Areas	Camping	Picnicking Skiing Swimming Fishing Hunting Boating	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Riding Country URV	URV USe	Total
Nine Mile Creek Wildlife	}	1	,	ł	1.3	ĺ	i	0.2	i	į	2.0
ממושחת שבור עובים	6	c		o ~	3.7	ŧ	6.0	į	ŧ		1.3
Upper North Crow Reservoirs	۶. ⊃	r.	l	:	;		,		1	1	0 1
take Absaraka 1	i	!	l	1	9.0	•	0.1	i			
Closes Later	1	8.4	I	19.2	0.5	•	1.4	ł	ĺ	í	25.9
December of the Control of the Contr	10.0	3.0	i	3.0	20.0	2.0	15.0	3.0	1		96.0
ביין ווחפן אפפן אפן	0 40	16.0	÷	16.0	50.0	15.0	1	1	ì	ı	113.0
Alcova Reservoir		5.0	1	ļ	0.5	1.0	1.0	}	1	1	4.0
Gray Keers Reservoir	٠, د	4.0	1	}	0.5	1	3.1	١	ı	į	6.3
North Fidtle River Oliver Reservoir	7.5	7.5	i	6.2	6.2	9.0	3.8	1	i	į	31.8

Notes: I indicates that recreational area is within Area of Concentrated Study.

Activity days for fishing and hunting for Springer Wildlife Unit were devised from Draft EPIR based on updated information provided by the Wyoming Game and Fish Department. Includes Bump Sullivan and Springer Reservoirs.

3 Dashes indicate no activity. Zeros indicate fewer than 50 activity days.

Derived from data supplied by National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Wyoming Recreation Commission, Wyoming Game and Fish Department, Colorado Division of Parks and Outdoor Recreation, Colorado Division of Wildlife, Nebraska Game and Parks Commission, etc. Source:

Reservoir No. 3. Fishing would continue to be the most popular activity at most game and fish areas with boating and camping remaining popular at Lake Hattie, Meeboer Lake, Springer Wildlife Unit, Twin Buttes Reservoir, and Wheatland Reservoir No. 3. Visitation at most game and fish areas would continue to be below capacity.

BLM lands within the ACS would continue to receive high levels of use, but such use would be greatly dispersed over a large geographic area. Camping, hunting, and fishing would be the major activities occurring on BLM lands with fairly high levels of ORV use, picnicking, boating, snowmobiling/cross-country skiing, and hiking/horseback riding. Most of this use is expected to occur in Albany and Carbon counties.

Sloans Lake would continue to be a popular recreation area for Cheyenne residents. In terms of activity days, swimming would continue to be the most popular activity even though swimming use would be below capacity during most of the year. A lower forecast of boating activity days results from the small size of the lake.

3.5.2.1.2 Proposed Action

The impact on regional recreation areas within the ROI will be moderate and significant at the regional level during the short term but low and not significant during the long term. Impacts are moderate during the short term because some areas (e.g., Wyoming state parks) are already virtually at capacity on certain seasonal and holiday weekends and any additional use would exacerbate existing overcrowded conditions. A noticeable decline in the perceived quality of the recreational experience would result. Impacts in the long term are low because there would be increased visitation pressure but negligible decline in the perceived quality of the recreational experience.

As shown in Table 3.5.2-2, over 110,000 activity days of recreational participation would be generated in the peak year by project-induced population in Cheyenne, Wheatland, and Torrington, while only about 33,400 activity days would be generated in the settlement year. The greatest number of activity days would occur in camping, picnicking, hiking/horseback riding, fishing, swimming, and hunting. Skiing, boating, swimming, and hunting are very low in comparison while ORV use falls in the middle. Ninety-five percent of the individual activity totals is allocated among the various recreation areas identified within the region with the remaining 5 percent expected to occur outside the ROI or at private areas within the ROI.

Table 3.5.2-2

TOTAL INDUCED RECREATIONAL PARTICIPATION, GENERATED BY PROJECT-INDUCED POPULATION IN CHEYENNE, WHEATLAND, AND TORRINGTON IN PEAK YEAR (1987) AND SETTLEMENT YEAR (1991) (in Activity Days)

Activity	1987	1991
Camping Picnicking Skiing Swimming Fishing Hunting Boating Hiking/Horseback Riding Snowmobiling/Cross Country ORV Use	17,202 15,250 3,630 13,238 14,396 12,018 5,368 15,250 5,246 8,968	5,235 4,643 953 4,005 4,357 3,663 1,637 4,616 1,600 2,719
TOTAL:	110,566	33,428

Source:

Calculated using recreation participation rates derived from John Carlson and Clynn Phillips (1980) <u>Projections of Outdoor Recreation Participation for Wyoming: 1995</u>, Water Resources Research Institute, University of Wyoming, Laramie.

Tables D-1 and D-2 in Appendix D summarize anticipated increases in activity participation pressure at each of the resource-based recreation areas within the ROI during the project peak year (1987) when population inmigration is greatest and the settlement year (1991) when population inmigration levels off. These anticipated increases, determined from the computerized gravity allocation model developed for this study, form the basis from which to evaluate potential impacts on each area within the ACS. Both tables include two lines of numbers associated with each recreation area; the first line shows the total increase in activity days of pressure generated by project-related or induced population in Cheyenne, while the second set of numbers indicates the percentage increase of that pressure over baseline activity.

It is important to note that the anticipated increase in activity participation pressure does not necessarily mean that actual participation will increase by the same amount as indicated in the table. This is due to the fact that other factors such as management restrictions placed on recreational use and/or the perceived quality of the recreational experience as it relates to capacity limitations also affect the actual amount of use that occurs at a particular area. For instance, restrictions are placed on the number of hunting licenses, particularly for big game, that may be purchased for a given As a result, much of the anticipated growth in hunting activity may never occur or it may occur in other areas farther away where more hunting is permitted. Similarly, when visitation approaches capacity, this also results in a decrease in the quality of the recreational experience and potential users may choose to recreate elsewhere. Thus, the pressure to participate can exist although the level of actual participation may not increase to the same degree.

ORV values are less reliable than data for other activities because of the generally unrepresentative data base for that activity. It is believed that those areas identified by agencies as exhibiting ORV use do not represent a complete list; therefore, the impact assessment overestimates project-induced increases in pressure because of the limited number of areas to which increases of ORV use can be allocated. As a result, ORV values are included in the tables for reference only.

Before discussing the impacts associated with specific recreation areas and jurisdictions, the implications and increased visitation attributed to project-related inmigrants on law enforcement problems deserves some men-It is likely that as visitation at recreation areas increases, the potential for violations of park regulations, ORV abuse, vandalism, littering, criminal activities, and other violations would also increase. These actions, which also tend to affect the overall quality of the recreational experience, are directly linked to population and therefore would be expected to increase with population growth. Therefore, areas forecast to experience the greatest absolute increases in project-induced activity days would be most likely to experience law enforcement problems as well. It is important to note, however, that the socioeconomic background of the population base would influence the rate at which law enforcement problems would occur. In general, a predominance of professional/managerial workers and their families would not be as likely to cause problems as a predominance of single laborers, unskilled workers, and/or unemployed transients. Much of the inmigrant population to the region will be of the first type and, therefore, the potential for violations by that portion of the population is low. Less than 50 percent of the overall project-induced population to the region during the project peak year is attributed to nonprofessional or nonmanagerial workers and their families. This percentage includes construction workers, military personnel, Details of the impact population breakdown are provided in and transients. the demographics section of the Final Socioeconomics EPTR and the law enforcement section of the Final Public Services and Facilities EPTR.

Another issue associated with the project-related inmigrant population is the potential for transients to camp at nearby recreational areas while looking for employment. Most of the transient inmigrant population associated with the project is forecast to occur at Cheyenne, with smaller numbers occurring at Wheatland, Torrington, Kimball, and Scottsbluff/Gering during certain years. The annual average Cheyenne transient population is expected to peak at 324 in 1985 and then drop to between 200 and 300 from 1986 to 1989. In 1991, the transient population totally dissipates. Details of transient growth patterns during the project construction period are provided in Section 3.5.5.2 of the Socioeconomics EPTR.

Estimates are that approximately 55 percent of the transients coming into the region will not be financially capable of supporting themselves during their stay. The procedure used to develop this estimate is described in the Public Services and Facilities EPTR. Of this group, it is possible that some will seek residence at nearby regional recreation areas since such areas offer free or inexpensive housing options for persons with campers, vans, tents, etc. Depending on the length of stay, the use of public campgrounds by transients could impact the ability of the campgrounds to accommodate potential recreational campers during peak recreation periods. Areas closest to Cheyenne would be most likely to experience this type of impact.

3.5.2.1.2.1 National Forest System Lands

Medicine Bow National Forest will experience the greatest overall absolute increase in recreation pressure of any recreation area within the ACS. More than half the total increase in recreation pressure at the Forest will be experienced at the Pole Mountain Unit with most of the rest at the Medicine Bow Unit. Increased pressure at the Hayden and Laramie Peak units will be relatively minor.

The activity with the greatest increase in participation pressure in the four Medicine Bow units is hunting. This activity is projected to increase by 3.7 percent in the peak year and is expected to drop to 2.6 percent by 1991. The increase in actual hunting activity at Medicine Bow is unlikely to approach these levels because of restrictions on the number of hunting licenses that would be made available.

Other activities that will experience relatively high increases are hiking/horseback riding (1.8%), fishing (1.6%), snowmobiling/cross-country skiing (1.3%), picnicking (0.9%), and camping (0.8%). In the settlement year these drop to 0.5 percent or less.

3.5.2.1.2.2 U.S. Fish and Wildlife Service Lands

The national wildlife refuges in the ACS will experience only minimal pressure for additional recreational activities and facilities if the project is implemented. In the peak year (1987) Hutton Lake and Bamforth would experience less than a 2 percent increase in pressure. In the settlement year (1991) both areas would experience less than a 0.5 percent increase.

Hutton Lake and Bamforth would both experience negligible additional pressure in demand for hiking with Bamforth accommodating pressure for 2 additional activity days and Hutton Lake an additional 8 activity days. In 1991, pressure for additional activity days would decline to 3 days for Hutton Lake with no additional pressure on Bamforth.

The minimal increases in participation pressure are primarily due to low levels of current use, and it appears likely that such negligible increases can be accommodated without any impact on current users.

3.5.2.1.2.3 Bureau of Land Management Lands

On BLM lands throughout the ACS, a relatively high absolute increase in participation pressure would occur during the project peak year as a result of the inmigrant population. In terms of percentage increase over existing visitation, however, the change is minor. For the Niobrara, Natrona, Converse, Goshen, and Platte County portions of the BLM lands, almost all of the increased pressure is attributable to hunting (2,066 activity days). Laramie, Albany, and Carbon counties, on the other hand, would experience high activity-day increases in camping (1,049), fishing (1,027), and hunting (1,329). Since the majority of the additional pressure will be dispersed among several million acres of land, it is unlikely that any impact on the quality of the recreational experience will be felt.

Over the long term, project-induced activity-day pressure on BLM lands declines. For Niobrara, Natrona, Converse, Goshen, and Platte counties, hunting activity days are only 565 higher than baseline. Laramie, Albany, and Carbon counties experience activity-day increases of only 335, 308, and 429 for camping, fishing, and hunting, respectively.

3.5.2.1.2.4 Wyoming State Parks

The greatest increase in recreation pressure attributed to the project on Wyoming state parks within the ACS will occur at Curt Gowdy; in fact, total increased activity days at Curt Gowdy is almost twice as high as Glendo and almost two and one half times higher than at Guernsey. Increased activity at Seminoe is minor.

Not counting ORV use, the increase in activity participation pressure at Curt Gowdy is the greatest in fishing (a 6.0% increase in 1987 and 2.0% in 1991). Other activities at Curt Gowdy would also experience substantial increases during the peak year: hiking (6.5%), boating (6.0%), picnicking (4.5%), and camping (3.3%). In the settlement year, these activities would experience an increase over baseline of 1 to 2 percent.

In terms of percentage increases at Glendo and Guernsey state parks, the areas are similar. The greatest increase occurs in swimming (3.5% at Guernsey and 3.3% at Glendo during peak year). This is probably due to the general lack of suitable swimming areas close to the city of Cheyenne. All other activities would increase by approximately 1.7 percent or less during the peak year. During the settlement year, all activities including swimming would increase by 1 percent or less.

The WRC has indicated that several of these state parks become very congested during peak holiday weekends. A field inspection of two of these areas (Glendo and Guernsey) during the July 4, 1983 weekend, indicated that they were quite congested. It is likely that the increased activity pressure generated by the project at these areas will contribute to already congested conditions during peak weekends, especially during project peak year. These increases will probably have an effect on the quality of the recreational experience.

Because of the proximity of Curt Gowdy State Park to the primary impact population center at Cheyenne, there is particular concern for this area in terms of the transient issue stated earlier. Since a \$5.00 seasonal permit allows camping at a specific state park for up to 2 weeks at a time during the season, the potential for abuse of the 2-week rule exists since transients could theoretically move from campsite to campsite every 2 weeks. No regulations currently exist that would prohibit such actions although the park superintendent can request that people leave. If they refuse, the county sheriff's office can be called although it does not have any official jurisdiction to enforce park regulations. In this regard, transients who overstay their welcome could create impacts when an insufficient number of campsites are available for use by recreational campers.

3.5.2.1.2.5 Wyoming Game and Fish Areas

Of the 22 game and fish areas considered in this study (21 existing and 1 planned for the future), only 5 would experience recreation pressure increases of greater than 200 activity days during the peak year. These include Springer Wildlife Unit (582), Lake Hattie (581), Twin Buttes Reservoir (517), Johnson Reservoir No. 3 (292), and Wheatland Reservoir No. 3 (254). During the project settlement year, these drop below 200 activity days in all cases.

In all but seven areas, the largest absolute increase in activity pressure at each area is fishing. The seven exceptions are Springer Wildlife Unit, Rawhide Creek, Table Mountain Wildlife Unit, Wick Brothers Big Game Unit, Pennock Wildlife Unit, Laramie Peak Wildlife Unit (in which hunting activity day pressure is higher than the increase in fishing pressure), and Greyrocks Reservoir (at which the increased pressure is the same for fishing and hunting).

The only areas that exhibit increases in pressure of greater than 100 activity days for activities other than fishing during the peak year are Lake Hattie and Springer Wildlife Unit. The 182 activity-day increase for swimming at Lake Hattie represents a change of 4.2 percent over baseline conditions. The 283 activity-day increase in hunting at Springer Wildlife Unit represents a 6.2 percent increase, which drops below 100 days in 1991.

Fishing pressure at Twin Buttes Reservoir and Meeboer Lake is forecast to increase in the peak year by 1.5 percent each. Both facilities are at theoretical capacity. However, WGFD data reveal that four times the existing fishing use can adequately be handled at both areas. Since the majority of increased recreational pressure at both areas is related to fishing, it is likely that these small pressure increases would not result in any significant impact.

3.5.2.1.2.6 Other Wyoming Recreation Areas

Of the other Wyoming recreation areas within the ACS, the one expected to receive the most increased recreation pressure from project-related population is Sloans Lake in Cheyenne. Most of that pressure is related to swimming, since Sloans Lake provides Cheyenne residents with their closest outdoor swimming opportunity. During the peak year, increased pressure of 1,729 activity days of swimming is forecast to occur, representing a 9.0 percent increase over baseline. Over the long term, the increased pressure drops to 607 activity days or a change of 3 percent. It is likely that the amount of swimming pressure forecast is overestimated since other swimming alternatives within the city do exist.

Although the swimming area of Sloans Lake is often highly utilized, it has been indicated that there is generally available space for additional swimmers. Therefore, any additional use generated by project-induced population would not normally impact the facility. During Frontier Days, however, the lake is already fairly congested and additional use could aggravate already crowded conditions.

Increased pressure for recreational participation at Lake Absaraka would be minimal since only 18 activity days are forecast during peak year. At North Crow Reservoir the increase is also fairly low, although fishing and swimming each exhibit greater than 100 activity days of pressure during peak year. Although the percentage increase in both cases is relatively high (i.e., 3.3% and 11.2%, respectively), there is adequate capacity to accommodate these increases. Over the long term, the increased pressure for these activities drops to below 50 activity days in both cases.

3.5.2.2 Local Recreation

3.5.2.2.1 Baseline Future - No Action Alternative

3.5.2.2.1.1 Cheyenne, Wyoming

Baseline population forecasts for the Cheyenne Urban Area show population increases of 12,330 people or slightly less than 20 percent from 1983 to 1992. The largest increase is 1,590 people, occurring between 1990 and 1991.

It would be necessary to acquire additional parkland during this period to accommodate growth in the Cheyenne Urban Area. Using the standard adopted by the GCRC (6 acres of parkland per 1,000 people in Greater Cheyenne), the peak demand of 464 acres cannot be accommodated by the existing parkland base of 372.5 acres, creating a 91.5-acre deficiency. Of the deficiency, 74.0 acres are attributable to baseline growth, and the remainder (17.5 acres) reflects an existing deficiency.

The majority of baseline growth in the Cheyenne Urban Area is expected to be outside the City limits. The northeast and southern portions of the Cheyenne Urban Area will receive the largest population influx. The neighborhoods of Grandview, Frontier Mall, and Dildine are all expected to receive population increases greater than 70 percent. These outlying neighborhoods are currently undersupplied with developed parkland.

Additional facilities will be necessary during this period. Based on NRPA and Wyoming SCORP standards, Cheyenne will need two additional baseball fields, two volleyball courts, three softball fields, and three tennis courts to accommodate baseline growth. New facilities should be located in areas of the city which are presently undersupplied with parkland and/or facilities if possible. Where sufficient cost savings can be achieved by constructing facilities at a central location, this option should be considered. Joint development between the city and the school district should be considered to avoid duplication of services.

A 5-year capital improvement program addressing improvements to existing parkland and facilities is suggested in the preliminary draft of the City's Parks and Recreation Master Plan. It identifies a total of nearly \$5 million worth of improvements to the existing system over the next 5 years. Although the need for these capital improvements may be real, the sum of funds required for implementation is far greater than what the City has been allocating to parks and recreation capital improvements in past years.

In addition to the improvements just mentioned, the Parks and Recreation Department feels that a community recreation center is needed. A recreation

center with a gymnasium, weight room, four racquetball courts, fitness/auxiliary gym, meeting room, and related administrative spaces could be constructed in about 30,000 square feet (sq ft) for an estimated construction and furnishing cost of \$90 per square foot, or a total of approximately \$2.7 million.

Staffing pressures have been and will continue to be felt by the Parks and Recreation Department through 1992. During this period the Department would need to increase its staff by approximately 16 employees or approximately 20 percent. The majority of additional staff would fill part-time operations and maintenance positions. Full-time staffing additions may be necessary at an administrative level.

In order to expand the system to accommodate a growing population and to take care of existing capital needs, additional resources need to be identified. Some options are:

- o The City is serving a larger population base than its tax base. It could implement and administer a differential fee structure for parks and recreation patrons residing outside city limits.
- Pass a bond issue for the development of the recreation center and some existing maintenance/improvement requirements.
- o Raise fees for all recreation services.
- o Jointly develop the recreation center facility with a school complex, preferably a junior or senior high school.
- o Seek a land donation from the County for a sports/athletic practice complex.
- o Seek grants from the WRC to renovate/improve some existing parks (there was \$1,224,000 available to be distributed statewide in fiscal year (FY) 1983).

In conclusion, the City of Cheyenne has an adequate system of parks and recreation, although areas like south and northeast Cheyenne do not have sufficient parkland. It is a relatively new system which is now beginning to require some repair and maintenance due to age and increased use. The system needs a higher level of funding or it will start to deteriorate. Additionally, the system will need to expand with population growth. Unless the City strengthens its policies so that new growth pays its own way, the burden of providing new parks to be used mostly by new residents will be borne by existing residents who have already contributed to the parks and recreation system in Cheyenne.

3.5.2.2.1.2 F.E. Warren AFB

Since no major population changes on the base are anticipated through 1992 under projected baseline conditions, no significant change in existing use patterns is expected to occur. Therefore, existing excess capacity at recreational facilities onbase would probably continue to exist.

3.5.2.2.1.3 Kimball, Nebraska

Under the baseline scenario, Kimball's population is expected to increase by 80 residents from 1983 to 1992. The community has adequate parks and recreation services for its existing population and is experiencing some difficulty in maintaining existing facilities due to declining population and tax base. It appears that population growth would create positive benefits for Kimball's parks and recreation system and that a declining population would eventually result in a deteriorating system due to inability to fund services.

3.5.2.2.1.4 Pine Bluffs, Wyoming

Under the baseline scenario, Pine Bluffs' population is expected to increase by 128 residents. The community has an adequate parks and recreation system to provide for its existing population. The increase of 128 residents is not expected to create a demand for parkland or facilities beyond those provided by the existing system. Additional permanent residents in Pine Bluffs could create positive benefits for the parks and recreation system by helping cover maintenance and materials costs.

3.5.2.2.1.5 Wheatland, Wyoming

Under baseline, Wheatland's population is expected to increase by 1,070 people or approximately 24 percent. Wheatland has an abundance of parks and recreation facilities and will be able to accommodate its baseline growth. However, additional demands will be placed on existing staff and maintenance efforts. Additional part-time staff members may need to be added during this period.

3.5.2.2.1.6 Chugwater, Wyoming

Baseline forecasts for Chugwater show an increase of 80 people or 35 percent from 1983 to 1992. Additional permanent residents could be beneficial to the community by providing additional funding for new projects, programs, or facilities.

3.5.2.2.2 Proposed Action

3.5.2.2.1 Cheyenne, Wyoming

The purpose of this section is to describe the need for additional parks and recreation services through 1992 in Cheyenne due to the project. Needs for facilities and staff are projected for the project peak year (1987) and settlement year (1992) in Table 3.5.2-3. Impact population forecasts for the Cheyenne Urban Area show an increase of 2,625 people in the peak year. By settlement year this decreases to a total of 925 people. The largest incremental increase is 1,075 people between 1984 and 1985.

With respect to participation, the inmigrants (projected to be younger than the existing population) can be expected to participate at higher levels in active sports, and at lower levels in more passive recreational activities. In general, a larger percentage of the inmigrant population will participate in most recreational activities. Golf is an exception, with the percentage of inmigrant participation expected to be slightly lower than the existing population. The participation rate is the number of times a participant is

Table 3.5.2-3 NO ACTION AND PROPOSED ACTION FACILITY AND STAFFING NEEDS, CHEYENNE, WYOMING

<u>Facilities</u>	Adequacy ^a Standards (1 Unit/1,000 Population)	1983 ^b Supply	1983 ^C Need	1987 ^d Need	1992 ^e Need
Baseball No Action Proposed Action	0.20	12	13.0 0.0	14,0 0.5	15.5 0.2
Softball No Action Proposed Action	0.33	11	21.5 0.0	23,1 1.9	25.5 0.3
Soccer No Action Proposed Action	0.10	8	6.5 0.0	7.0 0,3	7.7 0.1
Volleyball No Action Proposed Action	0.20	3	13.0 0.0	14,0 0.5	15.5 0.2
Basketball No Action Proposed Action	0.20	18	13.0 0.0	14,0 0,5	15,5 0,2
Tennis No Action Proposed Action	0.50	15	32.5 0.0	34.9 1.3	38.7 0.5
Swimming No Action Proposed Action	0.05	4	3.3 0.0	3.5 0.1	3,90 0,05
Golf (9 hole) No Action Proposed Action	0.04	3	2.6 0.0	2.8	3,09 0,04
Staffing No Action Proposed Action	1.38	83.5	83.5 0.0	89.4 3.4	99.0 1,2

Notes: a Derived from the Wyoming Recreation Commission, Wyoming State Comprehensive Outdoor Recreation Plan 1980, and National Recreation and Park Association Standards for Special Facilities: for a list of standards see Table 2.6.2-13.

b See Table 2.6.2-12 for existing Parks and Recreation Department facilities.

Using Cheyenne Urban Area 1983 population estimate of 65,030 people.

d Using Cheyenne Urban Area 1987 baseline population estimates of 69,870 people and impact population of 2,625 people.

e Using Cheyenne Urban Area 1992 baseline population estimates of

77,360 people and impact population of 925 people.

expected to take part in a specific activity. The inmigrants will have a higher rate in such recreational activities as baseball and swimming (this would also be true of activities such as soccer and basketball), and lower participation rates in activities such a tennis and golf. For specific information regarding the percentage of the population participating in an activity or participation rates, please see Appendix C (Recreation Methodology).

Total demand for parkland (including baseline and project demand) during the peak year (1987) is 435 acres. This demand exceeds Cheyenne's current parkland base of 372.5 acres, creating a 62.5-acre deficiency. Of this deficiency, 15.8 acres are attributable to the project. The remaining 46.7 acres represent baseline demand through the peak year (1983 to 1987), and a 17.5 existing deficiency. As discussed earlier, much of the existing parkland is concentrated in a few parts of the urban area, creating an undersupply of parkland in certain neighborhoods (those in south and northeast Cheyenne in particular).

The neighborhoods of Orchard Valley, Walterscheid, Fox Farm, and Community College in South Cheyenne are expected to receive 27 percent (709 people) of the inmigrant population. This would create a localized demand for 4 acres of developed parkland over the existing 28.5-acre deficiency.

The neighborhoods of Dildine, Frontier Mall, and Grandview in northeast Cheyenne are expected to receive 41 percent (1,077 people) of the inmigrant population. As discussed earlier, these same neighborhoods are expected to have the highest baseline growth rates (all increasing by more than 70 percent). This would create a localized demand for 6.5 acres of developed parkland in an area which is expected to receive the largest portion of baseline growth.

This is significant because 68 percent (1,786 people) of the inmigrant population is expected to locate in these outlying neighborhoods. This will create a localized demand for 10.5 acres of developed parkland in neighborhoods which are undersupplied with parkland and expected to receive the highest portion of baseline growth.

Current park development costs in Cheyenne include \$25,000 per acre of land purchase cost and \$50,000 per acre of development cost. Response to the approximately 11-acre demand could cost Cheyenne close to \$1 million. In the short term, this is a high and significant impact because it would require capital-expenditure funding outside of normal budgetary processes to respond to the need and would probably include such measures as raising taxes, floating a bond issue, or creating special assessment districts.

Cheyenne's recreation facilities will feel additional pressure from the inmigrant population. In many cases, this will push demand above threshold levels, requiring construction of additional facilities. Other facilities, while not pushed above threshold levels, will near their utilization capacity.

Of the facilities analyzed, outdoor recreation facilities will receive the highest levels of demand. During the peak year, the City would have to construct additional baseball (one field), softball (one field), volleyball (one court), and tennis (one court) facilities to accommodate this temporary

demand. The demand will decrease by approximately 50 percent in 1990 and will decline to 35 percent of peak year demand by 1992. This short-term impact will be moderate but significant because it will require an extensive fiscal response of the same nature as that required for parkland.

The City's indoor recreation facilities are near utilization capacity. Although the inmigrant population will not push these facilities above threshold levels, they will place additional demands on the system. Space for new classes and programs, many of which are conducted in School District facilities, will need to be allocated; scheduling of classes and programs will become more difficult, with space conflicts arising more often. Cooperative efforts between the City and School District No. 1 will become even more important.

Additional parks and recreation staff will be required to accommodate the increased demand created by the inmigrant population. The forecast increase of 2,625 people during the peak year (1987) creates a demand for an additional 3.4 staff persons beyond baseline need. Impact demand will decrease to 1.2 additional staff persons by 1991. Because it is expected that these staff shortages can be dealt with by creating additional part-time positions during periods of high demand, this short-term impact will be moderate and not significant.

In conclusion, the inmigrant population will place additional demands on parkland, facilities, and staff. Additional parkland would be required in those undersupplied neighborhoods expected to receive a large population influx. Softball, baseball, volleyball, and tennis facilities would need to be constructed to accommodate inmigrant demand. Additional part-time staff to administer, operate, and maintain the parks and recreation system would also It is important to remember that the demand created by the be necessary. inmigrant population is short term, peaking in 1987 and decreasing to 35 percent of peak year demand by 1991. Since project-related population increases are concentrated in approximately 8 years, long-term impacts are expected to be low and not significant. Beyond the settlement year (1992) there will be no additional project-related demand for parkland, facilities, or staffing. Operational personnel will, however, place continuing pressure on the system, requiring ongoing expenditures for operations and maintenance.

3.5.2.2.2.2 F.E. Warren AFB

F.E. Warren AFB is not expected to receive any of the inmigrant population as permanent residents.

3.5.2.2.3 Kimball, Nebraska

The current population of Kimball is estimated at 3,140 people. Project development is expected to produce a modest population increase over a 2-year period. In 1988, 75 additional people are expected; this number will increase to 300 people in 1989 (peak year). Project inmigration will not create a demand for additional parkland or facilities within Kimball. Additional maintenance of facilities will be required, and an additional part-time staff member may have to be added. In the short term, impacts will be moderate and not significant. In the long term, impacts are expected to be negligible and not significant.

3.5.2.2.2.4 Pine Bluffs

Pine Bluffs is expected to receive a population increase of 150 people in 1988. This will not create a demand for additional parkland or facilities beyond those already provided within the community. Additional maintenance duties will have to be performed as a result of the project, but could be performed without hiring additional personnel. Short-term impacts are expected to be low and not significant. Long-term impacts are expected to be negligible and not significant.

3.5.2.2.2.5 Wheatland, Wyoming

Wheatland's current population is 4,520 people; its population has decreased by approximately 300 persons in the past 3 years. Project-related population increases last for 3 years and include 450 people peak year. Given Wheatland's current facilities, project-induced population increases will not create a demand for parkland or facilities above those services already offered within the community. Additional maintenance of facilities will be required, and a part-time staff position may have to be added. The short-term impacts are expected to be moderate and not significant. The long-term impacts are expected to be negligible and not significant.

3.5.2.2.2.6 Chugwater, Wyoming

The current population of Chugwater is 230 people. The total population of Chugwater including baseline growth and project-related persons is expected to be 320 people in the peak year (1987). The increase in population associated with the project (50 people) is not expected to create any demand for parkland, facilities, or staffing above current levels. Both short and long-term impacts are expected to be negligible and not significant.

3.5.3 Visual Resources

3.5.3.1 Baseline Future - No Action Alternative

The No Action Alternative would allow the pastoral setting and its associated ranch activities to remain undisturbed. The elements of line and texture would continue to dominate the landscape.

3.5.3.2 Proposed Action

This section deals with impacts which will occur with implementation of the project. It addresses five aspects of development which include Operating Base facility development, buried cable installation, upgrading of Defense Access Roads (DAR), development of base access roads, and development of dispatch stations. The Contrast Rating System was applied to each development activity to ascertain the overall degree of visual contrast or LOI. As an example, in the section that immediately follows this one, the Operating Base facility development will create a moderate visual impact during the short-term construction phase. Table 3.5.3-1 shows how this conclusion was reached. The methodology used to apply the Contrast Rating System is shown in Figure 3.1.3-1. The assigned weight for each element is multiplied by the degree of contrast to reach a score or range which is then totaled for each landscape feature and averaged to obtain an overall degree of impact.

Overall, development activities will alter the surface, vegetative, and structural characteristics of the landscape during the short-term construction phase. After regrading and revegetation are completed, long-term effects will be negligible.

3.5.3.2.1 Operating Base Facility Development

Construction activities at the Operating Base will create a moderate visual impact during the short-term construction phase (Table 3.5.3-1). Approximately 360,000 sq ft of floor space will be constructed at F.E. Warren AFB for an Integrated Support Complex (ISC), Weapons Storage Area (WSA), Stage Storage Area (SSA) facilities, and missile maintenance facilities. In addition, approximately 40,000 sq ft of existing floor space will be modified or renovated.

Construction of the WSA will occur in the southwestern corner of the base adjacent to existing development. Construction of the SSA will occur northwest of the existing development. Other construction activity will be distributed throughout the developed portion of the base. Construction activities would not be seen from the major north-south travel route, Interstate 25.

Short-term effects include impacts from clearing vegetation for building sites, clearing for road system and railway development, and earth movement associated with construction of the various support and deployment facilities. Impacts would be limited to the viewshed or segment of the landscape that is seen from the travel route adjacent to the proposed facilities.

Table 3.5.3-1
OPERATING BASE CONTRAST RATING APPLICATION

Feature	El ement		Degree of	Contrast	Score
Land/Water Surface	Form Line Color Texture	4x 3x 2x 1x	Weak Weak Weak Medium	1 1 1 2	4 3 2 2 11
Vegetation	Form Line Color Texture	4x 3x 2x 1x	Weak Weak Weak Weak	1 1 1	4 3 2 1 10
Structures	Form Line Color Texture	4x 3x 2x 1x	Medium Medium Weak Weak	2 2 1 1	8 6 2 1 17

Note: Averaged score of 12.6: moderate visual impact.

3.5.3.2.2 Buried Cables

Approximately 195 miles of buried, pressurized cables connecting each Flight's 10 LFs with the Launch Control Center (LCC) will be installed for the project. Installation will create a negligible impact during the short-term construction phase (Table 3.5.3-2). Minimum cable depths will vary from 3 feet in normal and rocky terrain to 5 feet where the cable crosses irrigated land. A 35-foot easement will be required during construction, of which a 16.5-foot right-of-way will be retained by the Air Force. After installation, landowners will have access to the easement for normal agricultural activities.

Short-term effects include clearing and stripping of vegetation, followed by soil excavation and stockpiling while cable installation occurs.

Table 3.5.3-2
BURIED CABLES CONTRAST RATING APPLICATION

Feature	Element		Degree of C	ontrast	Score
Land/Water Surface	Form Line Color Texture	4x 3x 2x 1x	None Weak Medium Weak	0 1 2 1	0 3 4 1 8
Vegetation	Form Line Color Texture	4x 3x 2x 1x	None Weak Weak Weak	0 1 1 1	0 3 2 1 6
Structures	Form Line Color Texture	4x 3X 2x 1x	None None None None	0 0 0 0	0 0 0 0

Note: Averaged score of 4.6: negligible visual impact.

3.5.3.2.3 Transportation Network

Missiles will be transported between the Operating Base at F.E. Warren AFB and silos in the DA on the existing road network wherever possible. Construction activity to widen and upgrade the road system will create a low visual impact for the immediate area adjacent to the affected roadways (Table 3.5.3-3).

Short-term effects will include clearing of vegetation and regrading to accommodate the additional width.

Table 3.5.3-3

ROAD NETWORK CONTRAST RATING APPLICATION

Feature	Element		Degree of	Contrast	Score
Land/Water	Form	4x	None	0	0
Surface	Line	3x	Weak	1	3
	Color	2x	Weak	1	2
	Texture	1x	None	0	<u>0</u> 5
Vegetation	Form	4x	Weak	1	4
•	Line	3x	Medium	2	6
	Color	2x	Weak	1	2
	Texture	1x	Weak	1	1
					13
Structures	Form	4x	None	0	0
	Line	3x	None	0	0
	Color	2x	None	0	0
	Texture	1x	None	0	0_
					0

Note: Averaged score of 6: low visual impact.

In addition to upgrading the DAR system, construction activities may be needed to connect F.E. Warren AFB with Interstate 80. Construction activities for the base access alternatives will require either raising bridges or lowering roadbeds, or construction of new freeway ramps (Table 3.5.3-4).

Table 3.5.3-4
BASE ACCESS ROAD CONTRAST RATING APPLICATION

Feature	Element		Degree of	Contrast	Score
Land/Water	Form	4x	Medium	2	8
Surface	Line	3x	Weak	ī	3
	Color	2x	Medium	2	4
	Texture	1x	Weak	1	$\frac{1}{16}$
Vegetation	Form	4x	None	0	0
	Line	3x	None	0	0
	Color	2x	Weak	1	2
	Texture	1x	Weak	1	$\frac{1}{3}$
Structures	Form	4x	Weak	1	4
	Line	3x	Weak	1	3
	Color	2x	None	0	0
	Texture	1x	None	0	$\frac{0}{7}$

Note: Averaged score of 8.6: low visual impact.

3.5.3.2.4 Dispatch Stations

There are three proposals for dispatch stations in the Deployment Area. The first includes two dispatch stations, one each in the northern and eastern portions of the Deployment Area. Although specific locations have not been identified for them, the EIS analyzed locations in the vicinity of Chugwater, Wyoming (northern area) and Kimball, Nebraska (eastern area) as representative communities for possible dispatch stations. This represents the Proposed Action. Alternatives to this action include either a single dispatch station in the eastern portion of the Deployment Area or no stations anywhere. Dispatch stations, ranging in size from 1 to 5 acres, may be established for the purpose of providing check-in points for personnel, vehicle dispatching, overnight parking for construction-related vehicles, and distribution of supplies. They will be temporary and consist of office space, enclosed storage space, and parking for up to 100 vehicles.

Short-term effects could include vehicular exhaust, dust from excavation, and other construction-related airborne matter which may reduce visibility, and possible clearing of vegetation. Short-term visual impacts will be negligible (Table 3.5.3-5).

Table 3.5.3-5
DISPATCH STATION CONTRAST RATING APPLICATION

Feature	Element		Degree of	Contrast	Score
Land/Water	Form	4x	None	0	0
Surface	Line	3x	None	0	0
	Color	2x	Weak	1	2
	Texture	1x	Weak	1	$\frac{1}{3}$
Vegetation	Form	4x	None	0	0
	Line	3x	None	0	0
	Color	2x	Weak	1	2
	Texture	1x	Weak	1	$\frac{1}{3}$
Structures	Form	4x	Weak	1	4
	Line	3x	Weak	1	3
	Color	2x	None	0	0
	Texture	1×	None	0	0

Note: Averaged score of 4.3: negligible visual impact.

- 3.6 Summary of Impacts
- 3.6.1 Impact Matrix
- 3.6.1.1 Land Use

Figure 3.6.1-1 displays the Impact Matrix which summarizes the impacts of the project on urban and rural land use. Figure 3.6.1-2 is the Alternatives Matrix which shows the impacts on land use of the alternative staging areas, F.E. Warren AFB road modifications, and buried cable system locations.

Urban land use impacts from the project would result from population growth and from alternative proposals for construction of dispatch stations and road modifications in or near population centers.

Short-term urban land use impacts in Cheyenne are low and not significant due to underutilization of a small amount of land used for mobile homes. Short-term impacts in the town of Wheatland are low and not significant due to underutilization of land used for multifamily uses. Impacts in both Cheyenne and Wheatland are negligible in the long term, however, there could be a beneficial long-term impact in Cheyenne due to infill of vacant lots created by housing demand from the project. The projected impact in Kimball would be low and not significant; it would be generated in the short term and have a long duration due to underutilization past 1992 of land for mobile homes. The impact in Pine Rluffs would be moderate and not significant; it would be generated in the short term and have a long duration due to underutilization of multifamily and mobile home uses that exceeds the highest recent annual average residential vacancy rate and lasts beyond 1992.

Impacts in Chuqwater are negligble in the short and long term.

Impacts resulting from the R1 and R2 alternative road configurations will be negligible since they would involve using a minor roadway realignment, lowering a roadbed, or bridge raising only. Alternative R3 will have a low impact due to the requirement for a new interchange which could be underutilized. The impact is not significant.

The dispatch station alternatives will have a negligible impact since they would be designed for temporary use and are assumed to be located in industrial or otherwise compatible areas.

Rural land use impacts from the project would result from proposed cable routes, OD zones, LF modifications, and T/E road modifications and agriculture impacts refer to impedance of access, animal husbandry, and agricultural practices. Figure 3.6.1-1 summarizes impact levels and significance ratings for these seven components of rural land use and agriculture. Figure 3.6.1-2 compares impacts of the five project buried cable alternatives and the six alternative cable routes on rural land use. The categories for roads and staging areas refer to urban land use impacts only.

Buried Cable Routes. Project-related land use impacts within the cable routes are low in the short term, negligible in the long term, and not significant due to a short-term interruption of agricultural land use that will not change

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LAND USE SUMMARY IMPACT MATRIX

FIGURE NO. 3.6.1-1

 $^{^{\}dagger}\text{Impacts}$ are those generated by construction activities and having a long duration.

 $^{^2}$ impacts are those generated by construction activities and having a long duration as well as those generated only by operational activities.

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the character of the area, and the continuation in the long term of agricultural uses after cable trenching. Project construction activities would directly affect approximately 338 acres of agricultural land.

The five Proposed Action cable routes would disturb less agricultural land than the alternative six - 338 acres compared to 482 acres. All routes would have a low, not significant impact in the short term and a negligible, not significant impact in the long term, since disturbance to agricultural land use would be temporary and would not change the overall agricultural character of the area.

Quantity Distance Zones. QD zone impacts are low in the short term and of long duration but not significant since restrictions on residential use would not change the overall character of the area. Nine inhabited structures and a total of 22,000 acres of land could be affected.

Launch Facilities. Land use impacts involving LFs are negligible and not significant in the short and long term since existing government/public use will continue and the character of the area surrounding the 100 modified LFs will not change due to the potential for minor, short-term interruption of agricultural use.

Transporter/Erector Roads. Land use impacts for T/E roads will be negligible and not significant in the short and long term since transportation-related uses will continue within existing rights-of-way, and additional land should not be required.

Impedance of Access. Project-related impacts to impedance of agricultural access are low in the short term since they are localized, negligible in the long term because they may occur only during the project construction phase, and significant because any resultant interference with agricultural activities (especially if crop losses occur) is likely to be highly controversial among landowners and the regional populace.

Animal Husbandry. Impacts to animal husbandry activities are low in the short term, negligible in the long term, and not significant due to their localized extent and the opportunities for avoidance of disturbances.

Agricultural Practices. Impacts to agricultural practices are not significant and low due to the localized nature of the impact but occur during the short term and are of long duration since potential interference with land improvements may occur for the life of the project.

3.6.1.2 Recreation

The impact level and significance matrix for recreation (Figure 3.6.1-3) shows that there will be a moderate and significant impact on both local and regional recreation systems during the short term. The impact on both systems is low and not significant over the long term.

Since alternative staging areas, roads, and cable routes do not affect recreation, no impacts are anticipated due to the alternatives.

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RECREATION SUMMARY IMPACT MATRIX

FIGURE NO. 3.6.1-3

3.6.1.3 Visual Resources

To summarize impacts of the project on visual resources, results of the BLM Contrast Rating System were combined and averaged. The contrast rating scores for Operating Base construction (moderate, 12.6 points), transportation network (low, 6 points), base access roads (low, 8.6 points), cable routes (negligible, 4.6 points), and staging areas (negligible, 4.3 points), produce an overall low visual impact (7.2 points) for site-specific, short-term activities. Local and regional short-term impacts, and site-specific, local, and regional long-term impacts are negligible and not significant. Summary matrices are shown in Figures 3.6.1-4 and 3.6.1-5. Figure 3.6.1-4 displays the Impact Matrix for visual resources, and Figure 3.6.1-5, the Alternatives Matrix.

3.6.2 Aggregation of Environmental Elements

3.6.2.1 Land Use

Figure 3.6.1-1 also presents the aggregation of impacts for land use as a whole. The aggregated rating for land use overall is low at the local level in the short term, having a long duration. Impacts are due to the potential for underutilization of developed land in Cheyenne, Wheatland, Kimball, and Pine Bluffs during the project's population decline cycle. Project-related housing demand could result in infill of vacant lots in Cheyenne which would be long-term beneficial impact for urban land use overall. Impacts are not significant. At the site level, impacts are low for agriculture and the rural land use categories cable routes and QD zones, and negligible for the rural land use LF and T/E road modifications categories. They drop to negligible in the long term for all aspects except the QD zones and agricultural practices where they remain low due to restriction of land uses. Overall impacts are not significant at the site level.

The overall rating has been reached through a qualitative averaging of the element and subelement ratings given in Figure 3.6.1-1.

3.6.2.2 Recreation

Figure 3.6.1-3 presents the aggregation of impacts on recreation as a whole. The aggregated rating for the overall resource is moderate and significant at both the local and regional levels in the short term, and low and not significant in the long term. The site level is not applicable to recreation.

The overall rating has been reached through a professionally judged, qualitative averaging of the two subelements comprising the recreation resource. The subelement ratings are also found in Figure 3.6.1-3.

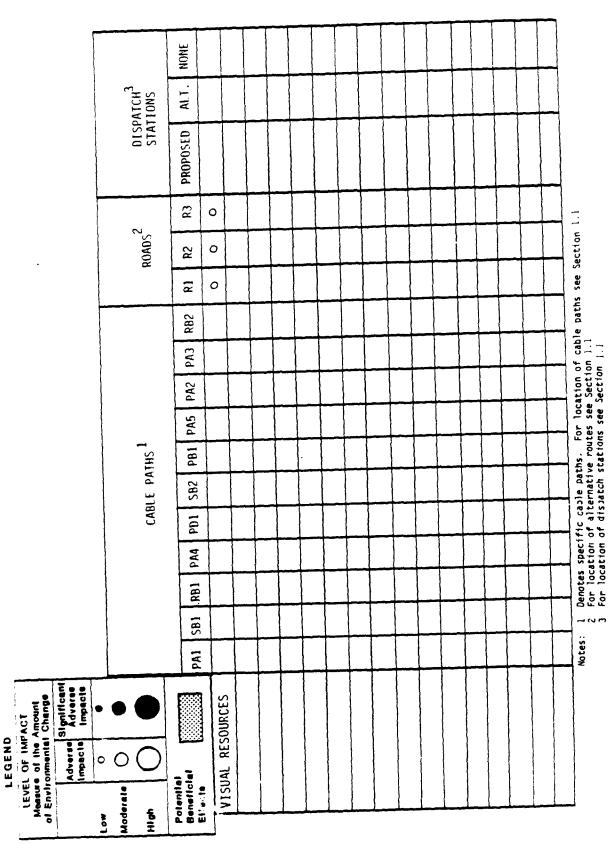
Under the regional heading of the matrix, the level and significance of impacts are based entirely on the regional recreation analysis. Under the local column, the determination depends on the results of the local analysis only.

Impacts at the regional level are moderate because there are facilities that virtually reach peak capacity on certain seasonal and holiday weekends. Any additional use exacerbates an existing overcrowded situation, thereby

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VISUAL RESOURCES IMPACT MATRIX

FIGURE NO. 3.6.1-4



VISUAL RESOURCES ALTERNATIVES COMPARISON MATRIX

contributing to a noticeable decline in the perceived quality of the recreational experience. Moderate impacts are significant because additional recreation demand contributes to competition for space among conflicting activities or overuse for the same activity, thus creating a potential hazard to public safety.

Local recreation comprises three components: parkland, facilities, and staff. Impacts to parkland are judged high and significant, to recreation facilities moderate and significant, and to staff moderate and not significant. The high determination is localized to the need for additional parkland in certain Cheyenne neighborhoods only and not to the city as a whole. Therefore, an overall rating of moderate for local recreation is more representative of potential impacts. The significance determination is related to the need for an extensive fiscal response on the part of local government to provide additional parkland or recreation facilities. The need for additional staff is not deemed to require a major financial outlay and is, therefore, not significant.

3.6.2.3 Visual Resources

Since visual resources contains only one element, no aggregation was performed.

3.7 Mitigation Measures

Potential mitigation measures offered for consideration are identified on the pages that follow. Each measure identifies the party responsible to implement, but not necessarily to fund, the measure.

3.7.1 Land Use

3.7.1.1 Urban Land Use and Planning

Mitigation measures for urban land use are listed for consideration below. These measures are designed to strengthen the overall management and policy positions of local decisionmakers in relation to the land development and approval process. Mitigation measures could be effective in discouraging speculative platting, overbuilding, and leapfrog development, all of which have already occurred in the Cheyenne Urban Area and which could be exacerbated by the project. Each measure identifies the party responsible to implement, but not necessarily to pay for, the measure.

- Development of a program to monitor land use and land development activities in the Cheyenne Urban Area. This measure would be effective in reinforcing mitigation measures by providing information to be used in local planning and decisionmaking, and if selected, should be implemented in 1984 prior to project construction. The responsible agency for implementing this mitigation effort is the Cheyenne-Laramie County Regional Planning Office (CLRPO).
- o Implementation of existing local annexation policies, development plans, and incentives to encourage infill and orderly growth. This

mitigation measure would be effective in reducing leapfrog development and associated public costs and, if selected, should be implemented when development applications are processed. The responsible agencies are the CLRPO, the City of Cheyenne, and Laramie County.

- Strengthening of local development regulations, design standards, and zoning in relation to mobile home parks in the Cheyenne Urban Area. This would be effective in assuring that mobile home development in response to the project will be of a high quality and readily absorbed. If selected, this measure should be implemented in 1984 before project construction. The implementing agency is that CLCRPO.
- Strengthening of subdivision and development regulations the Cheyenne Urban Area in order to 1) make sure that prior to pritting, design and engineering studies have determined that utilities and storm drainage can be provided by the developer or the responsible jurisdiction at a reasonable cost and in a timely manner, and 2) require an economic feasibility study for proposed development. This would be effective in discouraging speculative platting and building (which could result in underutilization of developed land) due to the project, and if selected, should be implemented in 1984 before project construction. The implementing agency is the CLCRPO.
- Updating of the comprehensive plan in Pine Bluffs and review of the adequacy of existing development regulations and controls in relation to project-related development. This would be effective in assuring that project-related development will be a long-term benefit to the community and will be compatible with existing uses and current community objectives. If selected, this mitigation should be implemented in 1985 before project impacts are to occur. The parties responsible for implementing these mitigation measures are town officials in Pine Bluffs.

3.7.1.2 Rural Land Use and Agriculture

The mitigation measures for rural land use and agriculture that could be implemented by the Air Force include:

- Schedule cable placement through sensitive cropland after harvest and before planting periods whenever possible to minimize crop damage. This mitigation measure will be effective in minimizing disruption of agricultural activities and loss of crops. If selected, it should be implemented at the beginning of (and continue throughout) the cable placement phase.
- o Minimize the placement of cables through irrigated cropland, especially center pivot systems. This mitigation measure will effectively minimize the kind of erosion and disruption of irrigation systems that can arise from disturbance of irrigated croplands. Additionally, avoidance of center pivot systems will reduce any damage to these relatively expensive systems and minimize loss of the relatively high yield per acre crops that they irrigate. If selected, the measure should be implemented during the design phase of cable routes.

- Locate cable routes away from watering holes, mineral blocks, livestock feeding areas, calving and lambing grounds, and any other locations where livestock tend to concentrate. This measure should effectively protect livestock through minimizing impacts due to direct construction activities (i.e., falling in trenches) and any indirect impacts due to stress, such as weight loss or reduction in reproduction. This measure would be implemented during the cable route design phase.
- o Institute a land reclamation program consistent with state and federal guidelines for reclamation of surface-disturbed lands. This measure would effectively mitigate surface erosion effects of project development and restore equivalent forage plants and productivity. The measure should be instituted immediately after completion of all construction activities.
- o Provide an onsite coordinator during project construction activities, one of whose activities will be to ensure that gate closures are maintained and livestock cannot stray. The coordinator will be required during the construction phase when activities are occurring on grazing lands.
- The Air Force will consider implementing an environmental awareness program for project-related personnel prior to construction activities. This program would alleviate any impacts from Air Force or contractor personnel engaging in environmentally irresponsible behavior such as trespassing, littering, random shooting of livestock, and unauthorized off-road vehicle use. This mitigation, if selected, should be implemented during the construction phase of the project.
- The Air Force is considering an agricultural monitoring program that includes the monitoring of soil erosion in agricultural/undeveloped areas subject to Air Force contracted construction (see Final Geologic Resources EPTR). This mitigation would be effective in minimizing erosion and topsoil losses, which can affect crop and range plant productivity. The program, if selected, would be implemented during the project construction phase and continue until the resource was effectively restored.
- o Restrict access to open cable trenches by covering them or providing trench barriers. This measure will effectively eliminate the hazard posed to livestock and landowners. If chosen, the measure would be implemented during cable construction.
- Should road construction activities obstruct or potentially obstruct road access combines, seeding equipment, and/or grain or livestock transport vehicles during critical times of the year, the Air Force or the appropriate contractor should adjust construction activities to permit harvest, planting or market transport to proceed on schedule. This program would be effective in mitigating impedance to access and, if selected, should be implemented during the road construction phase of the project.

3.7.2 Recreation

3.7.2.1 Regional Recreation

Mitigation measures are designed to eliminate or minimize the problems associated with increased visitation at regional recreation areas. The mitigation measures listed below identify the party to implement, but not necessarily to pay for, the measure.

- o Implement an environmental awareness program to educate projectrelated inmigrants about problems associated with poaching, illegal
 fishing, vandalism, violations of park regulations, ORV abuse,
 etc. Details concerning such a program are included in Section 10.4
 of the Jurisdictional EPTR. This mitigation measure would be
 effective in controlling the number of occurrences that could result
 in impacts to recreational and other environmental resources and, if
 selected, would be implemented by spring 1985. The responsible
 agency for implementing this mitigation measure is the Air Force in
 association with state and federal recreational agencies.
- Design an advertising and promotional campaign to promote public awareness of and interest in recreation areas that currently sustain lower user pressures than more popular areas. This type of campaign could include the use of printed materials, radio and television, and referrals by recreation agencies. This mitigation measure would aid in reducing the impact to the quality of the recreational experience and law enforcement problems at already heavily utilized areas and, if selected, would be implemented by spring 1985. The implementing agencies for this mitigation measure are the WRC, the WGFD, and the USFS.
- Encourage the development of Upper North Crow Reservoir to attract usage from heavily utilized areas located nearby such as Curt Gowdy State Park and the Pole Mountain Unit of Medicine Bow National Forest. The provision of better access roads and signing would assist this goal. This mitigation measure would aid in reducing the impact to the quality of the recreational experience and law enforcement problems at already heavily utilized areas and, if selected, would be considered immediately and implemented before peak year 1987. The implementing agency for this mitigation measure is the Cheyenne Board of Public Utilities in conjunction with state and federal recreation agencies.
- Develop management techniques to control the number of people entering already overcrowded facilities. Specifically, control access to and from facilities during peak periods through the use of automated gates with a car counter. Uncontrolled roads could be blocked during peak periods. A less expensive but less effective approach might be to post overcrowding notices on entrance roads with recommendations for alternative sites. This mitigation measure would aid in reducing the impact to the quality of the recreational experience and law enforcement problems at already heavily utilized areas and, if selected, would be implemented before peak year 1987. The implementing agency for this mitigation measure is

variable depending on the jurisdiction of each area, but would most likely include the WRC and the USFS.

- Implement a monitoring program to continue throughout the project deployment period to assess changes in conditions and use patterns at major recreation areas within the region. This mitigation measure would aid in the identification of new or upgraded mitigation methods that may be required to prevent deterioration of critical parameters such as the quality of the recreational experience and law enforcement problems and, if selected, would be implemented immediately in order to establish a before-project scenario. The implementing agency for this mitigation measure is variable depending on the jurisdiction of each area, but would most likely include the WRC and the USFS.
- Increase the number of law enforcement patrols through state parks by the appropriate county sheriff's office, particularly with respect to Curt Gowdy State Park and Medicine Bow National Forest (Pole Mountain Unit). Additional law enforcement personnel have been proposed for the Laramie County Sheriff's Office in the Public Services and Facilities portion of the Final Jurisdictional EPTR and could be used to increase patrols in the area of the park. This mitigation measure would aid in deterring criminal violations and other matters falling within the jurisdiction of the sheriff's office and, if selected, would be implemented by spring 1985. The implementing agency for this mitigation measure is the WRC and the USFS in cooperation with the Laramie and Albany County Sheriffs' Offices.
- Modify existing state park regulations to protect against long-term camping at Curt Gowdy and other state parks. For instance, a requirement that seasonal camping permits may be used for 2-week periods at a time with at least 5 days between periods could be implemented. A color-coded, dated tagging system could be employed. The system would require a camper to pick up a tag before using a campground, display it while there, and turn it in at the end of his stay. This mitigation measure could effectively eliminate the potential for long-term camping at nearby state parks for all seasonal permit holders and, if selected, would be implemented in spring 1985. The implementing agency for this mitigation measure is the WRC.
- Develop a temporary housing referral program for needy transients coming into the region during the project construction period. This program would identify local service agencies that are available to house such transients. A further referral program in the case of overburdened service organizations is being proposed in Section 3.1.6.6.6 of the FEIS and the Public Services and Facilities portion of the Final Jurisdictional EPTR. This mitigation measure would reduce the potential for transient inmigrants to set up residence at nearby recreation areas and, if selected, would be implemented in early spring 1985. The implementing agencies for this mitigation measure are the City of Cheyenne, Laramie County School District No. 1, and county agencies.

O Consider the development of a new section of land adjacent to Curt Gowdy State Park that was recently purchased by the state for park expansion. This mitigation measure would be effective in reducing the impact on the quality of the recreational experience at the park due to increased visitation and, if selected, would be implemented by spring 1985. The implementing agency for this mitigation measure is the WRC.

3.7.2.2 Local Recreation

The provision of parkland, recreation facilities, and staffing outside the Cheyenne city limits cannot be accomplished by a single entity. Laramie County, for example, lacks the institutional structures to maintain recreational facilities. The following options are offered as possible solutions.

- O Consider use of special recreation districts to support county area recreation facilities. (Laramie County Recreation Planning Advisory Committee and GCRC.)
- Consider City/County joint venture development of recreation facilities outside City boundaries. The County would provide land and law enforcement. The City would maintain facilities on a contractual basis with the County. Development of the facilities would be a shared responsibility (Laramie County Recreation Planning Advisory Commission, GCRC, and the Cheyenne Parks and Recreation Department).
- o Consider City/School District joint venture development of recreation facilities. The School District would provide land and a portion of the facilities. The City would provide a portion of the facilities and maintain both the grounds and facilities (Laramie County School District No. 1, GCRC, and the Cheyenne Parks and Recreation Department.)
- Consider City/Laramie County Community College joint venture development of recreation facilities. This option would be similar to joint development between the City and the School District. The Community College would provide land, the City would provide maintenance, and facility development costs would be borne by both parties (Laramie County Community College, GCRC, and the Cheyenne Parks and Recreation Department.)

Mitigation measures are designed to eliminate or minimize the problems associated with increased use of local recreation facilities. Each measure identifies the party responsible to implement, but not necessarily to pay for, the measure.

Analyze facility utilization to determine whether rescheduling or minor upgrading (e.g., lighting ballfields or irrigation of fields). might ease impacts. This mitigation would be effective in accommodating the increased demand for facilities created by the project and would help prevent damage to existing facilities (e.g., turf). If selected, this mitigation measure would be implemented immediately by the Cheyenne Parks and Recreation Department.

- Adopt an incremental fee structure for programs and classes so that an equal percentage of the costs are borne by non-city residents. This mitigation would be effective in providing additional revenue for the Cheyenne Parks and Recreation Department which in turn would reduce the pressures placed on the department by non-city residents. If selected, this mitigation measure would be adopted immediately by the Cheyenne Parks and Recreation Department.
- Develop short-term recreation programs for the nonmilitary (Assembly and Checkout) inmigrant population. This mitigation measure would be effective in reducing the pressures placed on city recreation facilities during the peak period. If selected, this mitigation measure would be implemented by the Air Force in coordination with its contractors and the GCRC in 1985, and should be continued through 1989.
- Develop a joint City/School District neighborhood park at Anderson School. This mitigation measure would alleviate the pressure created by the more than 400 persons expected to locate in the Frontier Mall neighborhood in the peak year. If selected, this mitigation measure would be implemented immediately by the Cheyenne Parks and Recreation Department and Laramie County School District No. 1 to coincide with the completion of Anderson School.
- Expand Sunnyside Park to at least 5 acres and provide the developed facilities commonly found in a neighborhood park. This mitigation measure would alleviate the pressure created by the more than 350 persons expected to locate in the Dildine neighborhood during the peak year. If selected, this mitigation would be implemented by the Cheyenne Parks and Recreation Department no later than the first quarter of 1985.
- Expand Sun Valley Community Park to at least 30 acres and provide the developed facilities commonly found in community and neighborhood parks. This mitigation would alleviate the pressure created by the more than 300 persons expected to locate in the Grandview neighborhood during the peak year. In addition, this mitigation measure would reduce the community park impacts resulting from those inmigrants located in the Frontier Mall, Dildine, and Grandview neighborhoods. If selected, this mitigation measure would be implemented by the Cheyenne Parks and Recreation Department by the first quarter of 1985.
- Develop a joint venture community/neighborhood park to serve the neighborhoods of Orchard Valley and Waltersheid. This mitigation measure would alleviate the pressures created by the more than 500 persons expected to locate in those neighborhoods during the peak year. If selected, this mitigation measure should be implemented by the Cheyenne Parks and Recreation Planning Advisory Committee in the first quarter of 1984.

3.7.3 Visual Resources

No mitigation measures are recommended beyond the assumed mitigations discussed earlier.

3.8 Unavoidable Adverse Impacts

Once cable emplacement is completed, surface identification posts (situated at varying distances depending upon topographic conditions), will be permanently installed to mark cable location. An unavoidable adverse impact to rural land use and agriculture is thereby created since some restriction upon equipment movement and land use around the poles can be anticipated.

An additional unavoidable adverse impact may result from cable emplacement. Agricultural improvement activities, such as land leveling, terracing, and placement of canals, pipelines, tile drains, or water impoundments, may be limited because of the presence of the cable. Thus, cable emplacement may result in some additional design and location requirements that would not be required were cables not present.

3.9 Irreversible and Irretrievable Resource Commitments

There will be no irreversible or irretrievable resource commitments for the land use resource.

3.10 The Relationship Between Local Short-Term Use of Man's Environment and Maintenance and Enhancement of Long-Term Productivity

Agricultural productivity at the cable sites would be reduced in the short term, although loss to operators would be compensated. The intent of the project is to maintain and enhance long-term productivity of the resource through implementation of appropriate mitigation measures.

For urban land use, development of vacant lands could occur sooner than might otherwise occur, but existing development patterns and character would likely be maintained.

GLOSSARY

4.0 GLOSSARY

4.1 Terms

- Activity Day: a single occurrence of a recreational activity lasting for any period of time up to 12 hours; for example, 1 fishing visit of 8 hours duration would count as 1 fishing activity day as would a visit of 2 hours duration.
- Agricultural Conversion: the change of land use from agricultural purposes to some other form of land use.
- Annexation: a legal procedure, usually described in state statutes, followed by towns and cities when expanding their boundaries.
- Area of Concentrated Study: an area(s) within the Region of Influence which will receive the majority of environmental impacts. Environmental existing conditions and impact analyses are focused within the Area of Concentrated Study for this EPTR. The Area of Concentrated Study is defined for each environmental resource.
- Baseline: the characterization of an area under no-project conditions.
- Boomtown: a rapid, widespread expansion of economic activity in a town.
- Center Pivot Irrigation: an irrigation system utilizing a moving framework of sprinkler heads which is anchored at one end and propelled in a circle by water pressure.
- Cheyenne Urban Area: includes Cheyenne Census Division, F.E. Warren AFB, and urban fringe parts of Cheyenne East and West Divisions. Derived for analytical purposes by URS-Berger.
- Cheyenne Urbanized Area: the City of Cheyenne and the adjacent densely settled areas of Laramie County. By Bureau of the Census definition, an urbanized area comprises an incorporated area and the adjacent densely settled surrounding areas that together have a minimum population of 50,000.
- Color: the property of reflecting light or a particular wavelength that enables the eye to differentiate otherwise indistinguishable objects.
- Comprehensive Plan: a public document, usually consisting of maps, text, and supporting materials, adopted and approved by a local government legislative body, which describes future land uses, goals, and objectives proposed within that government's jurisdiction.
- Contrast: the effect of a striking difference in form, line, color, or texture of a landscape's features.
- Corridor: a strip of land of various widths described on both sides of a particular linear facility such as a highway or transmission line.

- Cultural Modification: any manmade change in land, water forms, or vegetation (roads, bridges, buildings, fences); the addition of structures which create a visual contrast to the natural character of the landscape. A negative cultural modification is disharmonious with the existing scenery while a positive cultural modification can actually complement and improve a particular scene by adding variety and harmony.
- Designated Wilderness Area: a tract of land that has been approved congressionally for incorporation into the National Wilderness Preservation System as mandated by the Wilderness Act of 1964.
- Developed: a lot, parcel, or area which has been built upon or has had public services installed preparatory to development.
- Direct Effects: effects resulting solely from project implementation.
- Dissected Topography: an area of land characterized by numerous valleys and gullies caused by extensive surface water runoff.
- Distance Zones: areas of landscape denoted by specified distances from an observation point or observer.
- Disturbed Area: that specific land which has had its surface altered by grading, digging, or other activities related to construction.
- Dry Cropland: land devoted to the production of crops without the need for irrigation.
- Easement: the right to pass over property owned by another party; right-of-way.
- Flights: an irregular polygon circumscribed around ten missile silos that are treated as a unit.
- Floodplain: for inland waters, the area subject to a 1 percent or greater chance of flooding in any given year (i.e., the area adjacent to a stream expected to be inundated in a 100-year flood). Executive Order 11988, Floodplain Management, places limitations on the construction of projects in floodplains and promulgates guidelines to ensure public health and safety both to protect against property loss and to protect natural and beneficial values of floodplains.
- Forage: plant material which can be grazed or cut for hay and used as feed.
- Form: the mass or shape of an object which appears unified; often defined by edge, outline, and surrounding space.
- Fringe Area: that unincorporated area adjacent to Cheyenne containing residential and nonresidential uses similar in character to the incorporated portions of Cheyenne.
- Geographic Management Information System (GMIS): an automated cartographic computer system capable of graphically displaying a variety of spatial attributes, such as land uses.

- Growth Management: the philosophy of using land development controls (regulations, plans, and policies) to influence the rate, direction, and quality of growth and development within a governmental jurisdiction.
- Harmony: the combination of parts into a pleasing or orderly whole; congruity; a state of agreement or proportionate arrangement of form, line, color, and texture.
- Impact: an assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the effects, usually measured using a qualitative and nominally subjective technique.
- Incorporated: a town or city which has been organized pursuant to the laws of the state, having an elected governing body.
- Indirect Effects: effects resulting from the attributes of other resources acting on the attribute being studied. For example, direct project employees will spend some of their income locally. As a result, local industries will tend to hire more workers as they expand in response to the increased demand. This additional employment is termed an "indirect effect."
- Infill: the process of encouraging development of vacant lands which have been bypassed during the growth of a city and are now surrounded by development.
- Infrastructure: the system of public utilities, communication facility networks, and roadways which connect all the structures and facilities in a given locale.
- Inmigrants: all people relocating into a defined geographic area, usually calculated on an annual basis.
- Irrigated Cropland: land devoted to the production of crops which require and benefit from periodic supplemental moisture other than natural precipitation.
- Landowner: a person or entity indicated as the owner of property on the various ownership maps maintained by the Office of the County Assessor.
- LANDSAT: an unmanned earth-orbiting NASA satellite that transmits multispectral images to earth-receiving stations.
- Level of Impact: for each environmental resource there are specific definitions for negligible, low, moderate, and high impacts for this EPTR.
- Line: the path that the eye follows when perceiving abrupt differences in form, color, or texture. In the landscape, ridges, skylines, structures, changes in vegetation, or individual trees and branches may be perceived as a line.
- Long Term: denotes the steady-state operations phase of the project when a constant level of project employment is attained; the life of the project.

- Lot: a parcel of land created by and identified in a subdivision.
- Mitigations: methods to reduce or eliminate adverse project impacts.
- Mobile Home: a single-family dwelling unit which is transportable in one or more sections, built on a permanent chassis, and designed to be used with or without a permanent foundation. Does not include travel trailers or recreational vehicles.
- Multifamily Housing: townhouse or apartment units which accommodate more than one family although each dwelling unit is only occupied by one household.
- Parcel: a plot of land with definable boundaries which is not a lot.
- Parks Master Plan: planning document projecting future need for parks and other recreational facilities.
- Participation Day: a single occurrence of a recreational activity lasting for any period of time up to 12 hours. Another term for activity day.
- Peak Year: the year in which some particular project-related effect, e.g., population inmigration, is greatest.
- Physiography: the physical geography of an area including landforms, climate, vegetation, and hydrology.
- Planimeter: an instrument used to measure the area of any plane figure by passing a tracer around the bounding plane.
- Plat (Platted): the map which is approved by the local governmental legislative body and officially recorded by the Office of the County Clerk and Recorder, which creates lots for sale and/or development, a lot or a ear included within a plat.
- Rangeland: land which produces vegetation suitable for grazing by livestock, including cattle, sheep, and horses.
- Reciamation: the process of restoration of an area which has been disturbed.
- Recreation Standard: the standard used to project future recreation needs based on population.
- Recreational Vehicle: a self-propelled vehicle designed to provide mobile, temporary living accommodations.
- Region of Influence: the largest region which would be expected to receive measurable impacts from the Proposed Action.
- Rural: that area outside of towns, cities, or communities characterized by very low density housing concentrations, agricultural land uses, and general lack of most public services.

- Rural Subdivision: a platted area located away from an incorporated town or city; characterized by very low densities, onsite wells for water supply, and septic systems.
- Scenic Quality: a relative index of the visual distinctiveness of the landscape based on the diversity of form, line, color, and texture, including visual intrusions but excluding viewer sensitivity.
- Settlement Year: the year in which project-related population inmigration levels off.
- Short Term: the construction phase of the project.
- Significance: the importance to the resource of the impact on the resource. Council of Environmental Quality (CEQ) regulations specify several tests to determine whether an action will significantly affect the quality of the human environment. While these tests apply to the entire action, they can also be used in an amended form to judge impact significance for individual resources. It is important to note that a high impact may not be significant, while a low impact may. Significance is an either/or determination: the level of impact described either is significant or is not significant. Additionally, beneficial significance must be determined at the same level as adverse significance. As specified in the CEQ regulations, significance needs to be determined for each of three geographic areas: site, local, and regional. This places the impact into context. Significance is also determined in terms of intensity.
- Site Specific: conditions characteristic of geographically defined locations that may vary considerably from characteristics of adjacent locations or the characteristics of a larger area within which the location in question is contained.
- Strip-Cropping: a soil and moisture conservation technique in which alternate plots of land are cultivated or left fallow co reduce wind/water erosion.
- Stubble-Mulching: crop residue left in the soil to provide protection from soil blowing and water erosion after harvest.
- Subdivision: an area of land for which a plat has been approved.
- Subdivision Moratorium: an action by a local government legislative body which causes the creation and/or development of lots to cease until the moratorium is lifted.
- Subdivision Regulations: a public document which establishes requirements for legally dividing land for sale or development.
- Temporary Use: a use or activity using land or a building which will not continue for an extended period of time.
- Texture: the visual manifestation of the interplay of light and shadow created by variations in the surface of an object.

- Unavoidable Adverse Impact: a project-induced effect determined to be adverse that cannot, or will not, be mitigated or avoided.
- Underutilization: an overbuilt condition where demand is not strong enough to absorb developed land uses, particularly during the decline cycle of a project.
- Unincorporated: not included within the corporate limits of a city or town.
- Urban: that area within towns, cities, or communities characterized by densities greater than one dwelling unit per acre.
- Urban Fringe: area associated with a city but beyond the municipal boundaries.
- Urban Service Area: the areas in and immediately surrounding a city that are entitled to service amenities such as water and sewer.
- Vacancy Rate: the average number of single-family, multifamily, or mobile homes that are unoccupied at any given time, compared to the total available number of units.
- Variety: the condition of having differentiated parts; the absence of monotony or sameness.
- Viewshed: the segment of landscape that is seen from an observation point or travel route.
- Visitor Day: one or more recreational visits totaling a 12-hour day. For example, 1 fishing visit of 8 hours duration and another of 4 hours duration would equal 1 fishing visitor day.
- Visual Intrusion: a man-caused alteration in the landscape that, due to the introduction of form, line, color, or texture and/or disproportionate scale, sequence or repetitions, introduces discord or discontinuity into the landscape, thereby reducing its visual quality.
- Zoning: the division of a municipality (or county) into districts for the purpose of regulating land use, bulk of buildings, required yards, necessary off-street parking and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.
- 201 Plan: wastewater treatment plan pursuant to Section 201 of Public Law 92-500.

4.2 Acronyms	
ACS ADT AFB AUM BLM CBD CDOW CDPOR CLCRPO	Area of Concentrated Study Average Daily Traffic Air Force Base Animal Unit Month Bureau of Land Management Central Business District Colorado Division of Wildlife Colorado Division of Parks and Outdoor Recreation Cheyenne-Laramie County Regional Planning Office
DA DAR	Deployment Area Defense Access Roads
FTE FY	Full-Time Equivalent Fiscal Year
GCRC GMIS ICBM	Greater Cheyenne Recreation Commission Geographic Management Information System Intercontinental Ballistic Missile
ISC LCC LF	Integrated Support Complex Launch Control Center Launch Facility
LOI NGPC	Level of Impact Nebraska Game and Parks Commission
NRPA NPS	National Recreation and Parks Association National Park Service
OB ORV PUD	Operating Base Off-Road Vehicle Planned Unit Development
QD ROI	Quantity Distance Region of Influence
SCORP SCS SSA	State Comprehensive Outdoor Recreation Plan Soil Conservation Service, U.S. Department of Agriculture Stage Storage Area
T/E Roads USAF	Transporter/Erector Roads United States Air Force
USDA USFS USFWS	United States Department of Agriculture United States Forest Service United States Fish and Wildlife Service
USGS VRM	United States Geological Survey Visual Resource Management System
WGFD WRC WSA	Wyoming Game and Fish Department Wyoming Recreation Commission

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APPENDIX A

APPENDIX A

CITY OF CHEYENNE PLANNING PROCESS

This section presents a review of the range of duties, responsibilities, and operations of the Cheyenne-Laramie County Regional Planning Office (CLCRPO), and an overview of the procedures followed in Cheyenne and the zoned portion of Laramie County for review and approval of new subdivisions, planned unit developments (PUDs), and rezoning. Information is based on personal communication with the CLCRPO Director, Assistant Director, and the Cheyenne Building Inspector.

A.1 Historical Activities

The planning process in the Cheyenne area is a joint City-County effort; the CLCRPO staff reviews development proposals for all of Laramie County and for the City of Cheyenne. The current Planning Department was created in 1978 when it was decided to separate the planning function from the Department of Community Development. In 1972, the separate City of Cheyenne and Laramie County Planning departments were combined under the auspices of the Model Cities Program to provide enhanced services to the citizens and development community. Ordinances and regulations were redrafted to accommodate the limited jurisdictional overlaps and the combined procedures.

During 1972, the Planning Department was located in approximately 600 square feet (sq ft) of space situated in the Old City Hall (now housing the Laramie County offices). There were three staff persons: two professional planners and one clerical person. The staffing level increased to eight persons in 1975 when the Planning Office was combined with Community Development. Current staff consists of 7 professional planners, 1 planning clerk, 2 full-time clerical persons, and 1 part-time clerical helper; a total of 11 staff members.

In 1981, the Planning Department was given charge of the two Community Development Block Grants following dissolution of the Community Development Office by the Cheyenne City Council. These two grants are for acquisition of floodplain lands and a Downtown Revolving Loan program for rehabilitation projects.

From 1972 to 1984 the Planning Department budget went from \$33,598 to \$294,315. Significant increases in salaries over that time are attributable to increases in staffing levels.

A.2 Current Activities

There are presently four major areas of responsibility for the Planning Department:

- Current planning rezonings, subdivisions, etc.;
- Long range planning;
- n Peacekeeper-related projects; and
- o Administration.

With the exception of the Department Head and the Transportation Planner, the work of the remainder of the professional staff is broken down as follows:

- o Current 50 percent;
- o Long range 25 percent; and
- Peacekeeper 25 percent.

The Planning Director presently spends his time primarily on administration and the Peacekeeper-related work. Historically, his time is split evenly among current, long range, and administrative duties.

The Transportation Planner is responsible for the Cheyenne Area Transportation Planning Process. His work is primarily of a current planning nature: reviewing development plans, coordinating traffic projects, and assessing existing standards for circulation and design. However, approximately 20 percent of his time is spent on long-range planning activities such as the 16th-17th Street Corridor Study.

The Planning Department currently occupies 1,230 sq ft in the new Municipal Building and rents 100 sq ft for storage and 140 sq ft in the Engineering Office for the Transportation Planner.

The caseload presently being handled by planning staff includes 7 to 12 cases for the Planning Commission 2 times each month, 15 to 25 cases for the Board of Adjustment, and a number of cases for the City Council and the Board of County Commissioners. In addition to its ongoing caseload duties, the CLCRPO is also involved in several other projects. Included among these are:

- o Rewriting a mobile home ordinance;
- o Preparation of a final parks and recreation master plan;
- o Involvement with the Neighborhood Statistics Program with the U.S. Bureau of the Census;
- o Preparation of an update to the Cheyenne Downtown Master Plan;
- o Rewriting the Cheyenne Zoning Ordinance;
- o Preparation of three small area plans for areas adjacent to the city including Sunnyside (Northeast), North Cheyenne, and South Cheyenne; and
- o Involvement with the Mayor's Impact Team for the Peacekeeper.

A.3 <u>Development Approval Process</u>

A wide variety of activities related to development proposals are reviewed. The City Council holds no public hearings regarding land use matters. All city land use applications, such as subdivision plats, rezonings, or annexations, are heard only by the City-County Planning Commission. However, state law requires the County Commissioners to hold public hearings regarding final

decisions on subdivision plats. The Board of Adjustment holds public hearings on conditional use permits, variances, and appeals from administrative decisions regarding interpretation of the zoning ordinance. No appeal can be made from a decision made by the Board of Adjustment other than to the courts. Where the Planning Commission is allowed to make the final decision on a given application, an applicant may appeal the decision to either the City Council or the Board of County Commissioners, depending on where the property in question is located; in general however, the Planning Commission is a recommending body to the City Council or County Commissioners. The County Commission also makes final decisions on rezonings. Both plats and rezonings are first heard by the Planning Commission, which then makes its recommendation to the County Commissioners.

The chart on the following page (Table A-1) resents a list of all of the applications taken by the CLCRPO staff and de neates the fees required, the number of copies required, and the deadlines for submittal of applications. Prior to the application being presented to Planning Commission for review and approval, Planning Office staff must review the application and investigate the development proposal.

The process begins with an informal conference in the Planning Office between the project planner and the applicant. During this consultation, the appropriate applications are determined, and the policies and regulations which may affect the application identified. The application process, the appropriate timing including the submission deadlines, the appropriate fees, and possible issues that may be addressed, are discussed in this informal meeting.

Following the submittal of the application, the Planning Office staff prepares an analysis of the request. The analysis reviews the application in terms of either the Cheyenne Area Development Plan or the Laramie County Comprehensive Land Use Plan, whichever is appropriate, to ensure that all policies and regulations pertaining to the property in question will be addressed.

Each application is reviewed internally by appropriate members of the City staff including the City Engineer, Public Works Department, City Manager's Office, Fire Department, Police Department, and the City Parks and Recreation Department. In addition, especially when a subdivision is proposed, many other agencies or organizations could be asked to review the plat or development proposal. Among these agencies are the State Highway Department, the State Engineer, the Soil Conservation Service, the State Recreation Commission, the local school district, Mountain Bell, Cheyenne Light, Fuel and Power and, if appropriate, the South Cheyenne Water & Sewer District.

The waiting time between date of application and the date of the public hearing is determined by the minimum time required by ordinance for legal notice of the public hearing to be published in the local newspaper. This time frame generally runs between 14 and 34 days prior to the Planning Commission public hearing, depending on what type of application has been submitted. For example, a County Site Plan Review requires submittal only 14 days prior to the Planning Commission hearing date. At the other end of the time requirement spectrum, a conditional use permit in Laramie County requires submittal 34 days prior to the Planning Commission public hearing.

Table A-1

CHEYENNE AND LARAMIE COUNTY LAND DEVELOPHENT APPLICATION PROCESS

APPLICATION	FEES	COPIES	SUBMITTAL DEADLINES	PUBLIC HEARINGS			
				COMMISSION	BOARD OF ADJUSTMENT	CITY	COUNTY
Abbreviated	\$ 50.00	Applications	26 days before	tion		Final Decision	Final Decision
		tes Plat: 31	Planning Commission			within city and	within County
		copies (County)				T MITE OF CITY	
Annexation	\$75.00	ASSTRUCTION OF THE PERSON	2 4 4				
	\$7.50	Original 6 2	District Complession	Mecommentation		Final Decision	
	Der.						
	ACKA	_					
Conditional	200.00	_	21 days before	Recommendation	Final Decision		
Permit/City	403.00/	Original 6 9	Planning Commission		-		
	OCCUDE	Site Plan: 17					
	tion	Coptes					
Conditions)	\$65.00	Applications	34 days before	Recommendation			Final Decision
es e		7	Planning Commission				
Permit/County		copies Site					
Final Plat/	\$50.00	Application	Mithin 18 souths of	To be a second			
Replat		Original 6 3	Pre-Plat Approval	Che Subdivieron		Final Decision	Final Decision
_		copies Plat: 30		Requiretions Chap		within tity and	Wienin Councy
		copies		ter III Sec. 2(F)		of City boundaries	
		_					
Dist	\$125.00	Applications	26 days before	Final Decision			Review only
,		ter plat a cop-	Planning Commission				
a the state	426 00		1 4 4	2012100010010			
Plan Review		Original & 2	Diaming Commission				
		copies Site					
		Plan: 26 cop-		-			
		108					
Subdivision	• # ·	Applications	17 days before	Recommendation			Final Decision
	great-		Planning Commission				
	100	Copies Plats					
	\$10 Der						
	lot up	subaltted					
	• 01	final plat					
	B4 K.						
Vacation/	\$75.00	Applications	26 dave before	Recommendation		Pinal Decision	
City		Original 6 2 cop-	Planning Commission				
			•				
		copies					
Variance/	\$ 50.00		14 days before		Final		
CICY		original a scop-	Board of Adjustment		Decision		
Zone Change	\$95.00	Applications	19 days before	Recommendation		Final Decision	
City		Original & 1 copy	Planning Commission				
Zone Change	00 598	Application.	14 days before	no tabusanos			Of the Local Control
County		Original 6 3 cop-	Planning Commission				HOTSTORD TOUTS
		ies Maps: 22	•				
		copies					

Source: Cheyemia-Laramie County Regional Planning Office.

For each public hearing the Planning Office staff must prepare a staff report to the Planning Commission, City Council, or Board of County Commissioners, depending on which body is hearing the case. This staff report is a relatively detailed document outlining all pertinent aspects of the proposed development. A typical staff report will contain six to ten pages of written General information included could be applicant's name and information. address, requested action, purpose of the proposal, location of the site, existing zoning and land use, and surrounding land uses and zoning. Other information found in the staff report includes a brief history of other actions taken by the City or County regarding the site and what conditions were placed on the property at that time, whether or not there have been any neighborhood objections to or support for the proposed project, what the various policies, plans, and regulations say regarding the property proposed for development, and a listing and discussion of all concerns raised by the internal staff review of the project and by any outside agencies or organizations. Such concerns and issues could include drainage, erosion, parking, utilities, traffic, and parks. The final section of the staff report includes the recommendation made by the Planning Office relative to the application. This recommendation is for approval or denial or approval with conditions; the conditions are set out in the recommendation. Attached to the staff report are copies of all of the written comments received from agencies and City or County departments, as well as letters and other correspondence received from concerned citizens and other entities responding to the application.

APPENDIX B

Appendix B SPATIAL ALLOCATION METHODOLOGY

The purpose of the spatial allocation task was to allocate population, housing by dwelling units, and residential land use by acres, under baseline and project impact conditions, to neighborhoods within the Cheyenne Urban Area (Figure B-1 shows the boundaries of the Cheyenne Urban Area and neighborhoods for which allocations were projected). These 36 neighborhoods were defined by the City of Cheyenne for use by the U.S. Bureau of the Census in its 1980 Neighborhood Statistics Program.

Once allocations were completed, they were used by specific resources (e.g., transportation, utilities, public services, public finance) to determine the impacts of growth on areas and jurisdictions within the Cheyenne Urban Area. The components of the spatial allocation procedure are summarized below:

Determine Capacity of Growth Areas. The number of vacant platted residential lots in each neighborhood was derived from data developed for the Housing and Land Survey. Acres of vacant land were determined by planimetering land use maps (square mile sections) within the Cheyenne Urban Area. Utility data in the Housing and Land Survey were used to assess the potential for growth in areas to be served by the Cheyenne Board of Public Utilities (CBPU) or the South Cheyenne Water & Sewer District. In addition, undevelopable floodplains and steep slopes were identified as constraints to development.

Rank Neighborhoods for Allocation. For each type of housing (single family, multifamily, and mobile homes), neighborhoods were ranked to indicate their share of future housing growth. The ranking was achieved by assigning a percentage of annual growth for each type of housing to each neighborhood. Percentages were assumed to remain constant through the projection period. Table B-1 presents the percentages assigned to each neighborhood during the first task. Test runs were conducted to verify that the allocation formulas would not result in future growth which would exceed the capacity of vacant land/lots in a neighborhood.

Allocate Housing and Population By Neighborhoods. Net demand for single-family, multifamily, and mobile home units was allocated to neighborhoods under both baseline and impact conditions. Baseline population allocations to neighborhoods were derived by dividing baseline population figures by a person-per-household factor from the 1980 Census to determine year-round dwelling units. In a separate procedure, total project-related inmigrants were allocated to neighborhoods using the same percentages as in Table B-1. In this way, gross population attributable to the project could be identified for each neighborhood regardless of whether this population would occupy existing vacant units or newly constructed units.

CHEYENNE URBAN AREA NEIGHBORHOODS

TABLE B-1

CHEYENNE URBAN AREA HOUSING ALLOCATION FORMULA 1984-1992

	% Single-	% Multi-	% Mobile
Neighborhood	<u>Family</u>	Family	Homes
1	5		
1 2 3 4 5			
3		}	
4]	
5		<u> </u>	
6			10
7	2		
8	20	20	
9			
10			
11			15
12	20	30	
13		ļ <u>j</u>	
14 15		 	
15	2 15	25	
16 17	15	25	
		1	
18 19		10	
20	2	10	
21			
72	2	 	
22 23		 	
24		1	
<u>24</u> <u>25</u>	3 12	5	
26	12		
27			60
28 29 30			
29	2 2		
30	2		
31	2		15
32			
33 34	4 2		
34	2	10	
799	5		
999			
TOTAL	100	100	100

Allocate Land Use to Neighborhoods. Gross density factors of 4 single-family units per acre (0.25~acres~per~unit), 12 multifamily units per acre (0.08~acres~per~unit), and 6 mobile homes per acre (0.17~acres~per~unit) were assumed for calculating land use requirements. Land use projections were based on net housing demand only, since a portion of gross housing demand would be met by existing vacant units.

Allocations of baseline population and net housing demand are presented in Table B-2. Baseline land use allocations are presented in Table B-3. Allocations of net housing demand, gross population, and land use for the project are presented in Table B-4.

Allocate to Other Housing Accommodations. In addition to demand for single-family, multifamily, and mobile home units, there is demand for other housing accommodations such as hotel and motel rooms and campgrounds. Allocations of these "other" housing types were assigned to the following neighborhoods:

008 - 5 percent 027 - 15 percent 029 - 15 percent 799 - 15 percent

Assignment of percentages to these neighborhoods was based on a consideration of the location and size of existing nonfranchised motel, hotel, and campground facilities. Demand for these units due to the project is presented in Table B-5. (Project-related population allocated to other housing units is included in Table B-4.) It is assumed that there would be no land use changes created by this type of demand since existing facilities would generally be adequate.

Allocate Peak Demand. Average annual project employment was assumed as the basis for the projection and allocation of all population, housing, and land use numbers presented in tables to this point. A sensitivity analysis was then conducted to determine the impact of using peak quarter versus average annual employment figures. The additional population generated by using peak employment was assumed to occupy "other" housing types and thus would create no net housing or land use demand. In the event that the capacity of these other units was exceeded during peak periods (e.g., summertime tourist traffic), the market would still not be expected to respond by building new facilities to meet short-term demand. Therefore, no land use impact would be created.

Table B-2 ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS TYPE OF HOUSING BY UNIT AND TOTAL POPULATION YEAR-TO-YEAR CHANGE

		_	1980-	1981			1	981-	1982		1982-1983				
Neighbor-				Tota!	Total				Total	Total	-			Total	Total
hood	SF	MF	MH	Units	Pop.	_SF	MF	MH	Units	Pop.	_SF	MF	MH	Units	Pop.
		_						_							
1	6	1	1	8	20	6	1	1	8	20	6	1	1	8	20
2					-										
3															
4	1			1	2	2			2	5	2			2	5
5	4		1	5	12	4		1	5	12	4		1	5	12
6			1	1	2			1	1	2			1	1	3
7	12		2	14	34	12		2	14	34	12		2	14	34
8	36	6		42	103	37	6		43	105	37	6		43	105
9	2			2	5	2			2	5	1			1	3
10															•
11			1	1	2			1	1	2			1	1	2
12	2	10		12	29	2	10		12	29	1	10	_	11	27
13	2			2	5	2			2	5	1			1	2
14	3			3	7	3			3	7	3			3	7
15	10			10	25	10			10	25	10			10	25
16	17	8		25	61	18	8		26	64	18	8		26	64
17		_				••	•			•		•		20	04
18															
19		6		6	15		6		6	15		6		6	15
20	3	•		6 3	7	3	•		3	7	3	·		3	7
21	•			•	ŕ	-			•	,	,			,	,
22	6			6	15	6			6	15	6			6	15
23	•			•		•			·	1.5	·			v	13
24		1		1	2		1		1	2		1		1	2
25	7	10		17	42	7	10		17	42	7	10		17	42
26			1	1	2	•		1	1	2	,	10	1	1	2
27			8	8	20			8	8	20			8	8	20
28			•	•				٠	Ü	20			٥	٥	20
29	7	1	2	10	25	7	1	2	10	24	7	1	2	10	25
30	7	ī	-	8	20	7	î	-	8	20	7	1	2	8	20
31	•	•	5	5	12	,	•	5	5	12	,	-	5	5	12
32			•	•				,	,	12			5	3	12
33	16	2		18	44	16	3		19	47	16	2		10	44
34	••	4		4	10	10	5		5	12	10	2 4		18 4	44
799		ĭ	5	6	15		1	5	6	15		1	5	6	10 15
999	4	•	٠	4	10	5	•	J	5	12	5		3	5	12
	•			•	••	,			,	12	J			э	12
TOTAL	145	51	27	223	546	149	53	27	229	560	146	51	27	224	550

Notes: SF = Single Family
MF = Multifamily
MH = Mobile Home

Table 8-2
ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS
TYPE OF HOUSING BY UNIT AND TOTAL POPULATION YEAR-TO-YEAR CHANGE
Continued

			1983-	1984				1984	-1985		1985-1986				
Neighbor-				Total	Total				Total	Total				Total	
hood	SF	MF	MH	Units	Pop.	SF	MF	MH	Units	Pop.	SF	MF	MH	Units	Pop.
1 2	9			9	22	20			20	49	16			16	39
2 3 4 5 6 7															
6			4	4	10			7	7	17			6	6	15
7	4		7	4	10	8		•	8	19	6		·	6	15
8	37	13		50	122	78	28		106	260	65	23		88	216
9											•-				
10															
11			5	5	12			11	11	27			9	9	22
12	37	20		57	140	78	41		119	291	65	34		99	242
13															
14															
15	4			4	10	8			8	20	6			6	15
16	28	16		44	108	59	35		94	230	49	28		77	189
17															
18															
19		7		7	17		14		14	34		11		11	27
20	4			4	10	8			8	20	6			6	15
21															
22	3			3	7	8			8	20	7			7	17
23															
24															
25	5	3		8	19	12	7		19	46	10	6		16	39
26	22			22	53	46			46	112	38			38	93
27			20	20	49			43	43	105			36	36	88
28						_			_		_				
29	4			4	10	8			8	20	6			6	15
30	4		٠,	4	10	8			8	20	6		_	6	15
31	4		5	9	22	8		11	19	47	6		9	15	36
32	^			•	••				• •						
33	8	7		. 8	20	16			16	40	13			13	32
34 700	4	,		11	27	8	4		22	54	6	11		17	41
799 999	7			9	22	20			20	49	16			16	39
TOTAL	186	66	34	286	700	393	139	72	604	1,480	321	113	60	494	1,210

Table B-2
ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS
TYPE OF HOUSING BY UNIT AND TOTAL POPULATION YEAR-TO-YEAR CHANGE
Continued

				1007		1987-1988 tal Total Tot					1988-1989				
			L986-	Total	Total					Total				Total	Total
Neighbor-						SF	MF		Units	Pop.	SF	MF	MH	Units	Pop.
hood	SF	MF	MH	<u>Units</u>	Pop.	35	1711		011163				_		
1	19			19	46	19			19	47	21			21	51
2															
3															
Ã															
3 4 5 6 7														•	20
5			7	7	17			7	7	17			8	8	20
7	8			8	20	7			7	17	8			8	20
8	77	27		104	255	76	27		103	252	82	29		111	272
	,,	۲,				_									
9															
10			11	11	27			10	10	24			11	11	27
11		41	11	118	289	76	40		116	284	83	44		127	311
12	77	41		110	203	, 0	70								
13															
14	_			•	20				8	20	8			8	20
15	8			8	20	8 57	33		90	220	62	36		98	240
16	58	34		92	225	5/	33		90	220	U.	50			
17															
18										22		15		15	37
19		13		13	32		13		13	32	•	13		8	20
20	8			8	20	7			7	17	8				20
21									_					8	20
22	7			7	17	7			7	17	8			٥	20
23															
24												_			4.5
25	11	7		18	44	11	7		18	44	12	7		19	46
26	45			45	109	45			45	109	5 0			50	120
27			42	42	103			42	42	103			46	46	113
28															
29	8			8	20	7			7	17	8			8	20
	8			8	20	7			7	17	8			8	20
30	8		11		46	8		11	19	47	8		11	19	46
31	۰		+1		70	Ü			_3						
32	1.			16	40	16			16	40	16			16	40
33	16	• •			54	7	13		20	49	8	15		23	56
34	8	14		22	46	19	13		19	47	21			21	51
79 9	19			19	40	19			13	71					
999															
TOTAL	385	136	71	592	1,450	377	133	70	580	1,420	411	146	76	63 3	1,550

Table 8-2
ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS
TYPE OF HOUSING BY UNIT AND TOTAL POPULATION YEAR-TO-YEAR CHANGE
Continued

			1989-	1990							1991-1992				
Neighbor-				Total	Total					Total				Total	Total
hood	SF	MF	MH	Units		SF	MF	MH	Units	Pop.	SF	MF	MH	Units	
		_						_							
1	19			19	47	21			21	51	19			19	46
2															
3 4															
4															
5 6			_	_	_										
6			7	7	17			8		20			7	7	17
7	8	_		8	20	8			8	20	8			8	20
8	77	27		104	255	85	30		115	282	78	28		106	260
9															
10															
11			11	11	27			11	11	27			11	11	27
12	77	41		118	289	85	45		130	318	78	41		119	292
13															
14															
15	8			8	20	8			8	20	8			8	20
16	58	34		92	225	63	37		100	245	58	34		92	225
17															
18															
19		14		14	34		15		15	37		14		14	34
20	8			8	20	8			8	19	8			8	20
21	_			_		_									
22	8			8	20	9			9	23	8			8	20
23															
24	1.0	•					_					_			
25	12	7		19	47	13	7		20	49	12	7		19	46
26 27	46			46	112	50			50	120	46			46	112
28			43	43	105			47	47	115			43	43	105
29	•				10	_					_			_	
30	8 8			8 8	19	8			8	20	8			8	20
31	8		11		19 47	8 9		1.0	8	20	8			8	20
32	•		11	19	47	y		12	21	51	8		11	19	46
33	16			16	40	17									
33 34	16 7	14		16 21	40 51	17	10		17	43	16	••		16	40
7 99	19	14		19	46	9	15		24	59	.8	14		22	54
999	13			13	40	21			21	51	19			19	47
777					•										
TOTAL	387	137	72	596	1,460	422	149	78	649	1,590	39 0	138	72	600	1,470

Table 8-3

ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS
LAND USE (ACRES)
YEAR-TO-YEAR CHANGE

		1983	3-1984			198	4-1985			198	5-1986	
Neighbor-				Total	_		_	Total				Total
hood	SF	MF	<u>MH</u>	Acres	\$F	MF	<u>MH</u>	Acres	SF	MF	<u>MH</u>	Acres
1	2.25			2.25	5			5	4			4
2												
3												
4												
2 3 4 5 6												
6			.68	.68			1.19	1.19			1.02	1.02
7 8	1			1	2		2		1.5			1.5
8	9.25	1.04		10.29	19.5	2.24		21.74	16.25	1.84		18.09
9												
10												
11		_	.85	.85			1.87				1.53	1.53
12	9.25	1.6		10.85	19.5	3.28		22.78	16.25	2.72		18.97
13												
14								_				
15	1			1	2			2	1.5			1.5
16	7	1.28		8.28	14.75	2.8		17.55	12.25	2.24		14.49
17												
18												
19	1	.56		.56	^	1.12		1.12		.88		.88
20 21	1			1	2			2	1.5			1.5
	.75			76	•			4	1 75			
22 23	./5			.75	2			2	1.75			1.75
23 24												
25	1.25	.24		1.49	3	.56		2 56	2 5	.48		2 00
26	5.5	.24		5.5	11.5	.50		3.56 11.5	2.5	.48		2.98
27	3.3		3.4	3.4	11.5		7.31	7.31	9.5		6.12	9.5
28			3.4	J. -			7.31	7.31			0.12	6.12
29	1			1	2			2	1.5			1.5
30	i			i	2			2	1.5			1.5
31	ī		.85	1.85	2 2		1.87	3.87	1.5		1.53	3.03
32	•		.00		_		1.0/	3.0/	1.5		1.55	3.03
33	2			2	4			4	3.25			3.25
34	ī	.56		1.56	2	1.12		3.12	1.5	.88		2.38
799	2.25			2.25	5	••••		5	4			4
999					-			J	7			7
TOTAL	46.5	5.28	5.78	57.56	98.25	11.12	12.24	121.61	80.25	9.04	10.2	99.49

Table 8-3
ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS, LAND USE (ACRES)
YEAR-TO-YEAR CHANGE
Continued

		1986	5-1987			198	7-1988			1988	3-1989	
Neighbor-				Total				Total				Total
hood	SF	MF	MH	Acres	SF	MF	MH	Acres	SF	MF	MH	Acres
1	4.75			4.75	4.75			4.75	5.25			5.25
3												
4												
2 3 4 5 6												
6			1.19	1.19			1.19	1.19			1.36	1.36
7	2			2	1.75			1.75	2			2
8	19.25	2.16		21.41	19	2.16		21.16	20.5	2.32		22.82
9												
10												
11			1.87	1.87			1.7	1.7			1.87	
12	19.25	3.28		22.53	19	3.2		22.2	20.75	3.52		24.27
13												
14												
15	2			2	2			2	2			2
16	14.5	2.72		17.22	14.25	2.64		16.89	15.5	2.88		18.38
17												
18												
19		1.04		1.04		1.04		1.04		1.2		1.2
20	2			2	1.75			1.75	2			2
21									_			_
22	1.75			1.75	1.75			1.75	2			2
23												
24									_	• •		
25	2.75	. 56		3.31	2.75	- 56		3.31	3	.56		3.56
26	11.25			11.25	11.25		7 14	11.25	12.5		7 00	12.5
27			7.14	7.14			7.14	7.14			7.82	7.82
28	•			•	1.75			1 75	•			•
29	2			2 2	1.75			1.75 1.75	2			2 2
30	2 2		1 07				1 07		2		1 07	
31 22	4		1.87	3.87	2		1.87	3.87	2		1.87	3.87
32 33	4			4	4			4	4			4
33 34	2	1.12		3.12		1.04		2.79	2	1.2		3.2
34 799	4.75	1.12		4.75	4.75	1.04		4.75	5.25	1.4		5.25
999	7./3			4./3	4./3			4./3	3.23			5.25
777												
TOTAL	96.25	10.88	12.07	119.2	94.25	10.64	11.9	116.79	102.75	11.68	12.92	127.35

Table B-3
ALLOCATION OF CHEYENNE AREA BASELINE GROWTH TO NEIGHBORHOODS, LAND USE (ACRES)
YEAR-TO-YEAR CHANGE
Continued

		1989	9-1990			1990	-1991			1991	-1992	
Neighbor-				Total				Total				Total
hood	SF	MF	MH	Acres	<u>SF</u>	MF	<u>MH</u>	Acres	SF	MF	MH	Acres
1	4.75			4.75	5.25			5.25	4.75			4.75
3												
4												
2 3 4 5 6 7												
6			1.19	1.19			1.36	1.36			1.19	1.19
7	2			2	2			2	2			2
8	19.25	2.16		21.41	21.25	2.4		23.65	19.5	2.24		21.74
8 9												
10												
11			1.87	1.87			1.87	1.87			1.87	1.87
12	19.25	3.28		22.53	21.25	3.6		24.85	19.5	3.28		22.78
13												
14												
15	2			2	2			2	2			2
16	14.5	2.72		17.22	15.75	2.96		18.71	14.5	2.72		17.22
17												
18												
19		1.12		1.12		1.2		1.2		1.12		1.12
20	2			2	2			2	2			2
21	•			-	_							
22	2			2	2.25			2.25	2			2
23	-			-								
24												
25	3	. 56		3.56	3.25	.56		3.81	3	.56		3.56
26	11.5	. 50		11.5	12.5	• • • • • • • • • • • • • • • • • • • •		12.5	11.5	•••		11.5
27	11.5		7.31	7.31	22.0		7.99	7.99			7.31	7.31
28			,	,			,.,,	,				
29	2			2	2			2	2			2
30	2			2	2			2	2			2
31	2		1.87	3.87	2.25		2.04	4.29	2		1.87	3.87
32	۲		1.0/	3.0/	۲.23		2.04	7.63	•		,	5.5.
32	4			4	4.25			4.25	4			4
33 34		1.12		2.87		1.2		3.45	2	1.12		3.12
799	4.75	1.12		4.75	5.25	1.2		5.25	4.75			4.75
799 999	4./3			7./3	5.45			5.23	4./3			7.13
777												
TOTAL	96.75	10.96	12.24	119.95	105.5	11.92	13.26	130.68	97.5	11.04	12.24	120.78

Table B-4

ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE

1983 - 1984

		Hous	ing Units	- Net De	emand ²	Land	Use Acres	- Net D	emand3
Neighbor-	Gross				Total				Total
hood	Population ¹	SF	MF	MH_	Units	SF_	MF	MH	<u>Acres</u>
1	4								
1	4		-						
2	44								
3	44								
.									
1 2 3 4 5 6 7 8	7								
7	7 2 33								
,	22								
٥	33								
10									
11	11								
12	34								
13	34								
13									
14 15	•								
16	2 27								
16	21								
18									
10	•								
19 20	6 2								
20	۷								
21 22	1								
23	4								
23									
24 25									
25	5 9 55								
26 27	55								
28	33								
29	14								
30	1								
31	12								
32	14								
33	2								
33 34	3 8								
7 9 9	17								
999	17								
777									
TOTAL	297								
J	•••								

Notes:

SF=Single Family MF=Multifamily MH=Mobile Home

- 1 Gross population equals annual, transient, and weekly commuter inmigrant categories.
- 2 A () indicates a decline in net housing demand.
- 3 A () indicates a decline in need for this land use or an underutilization of previously developed land.

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1984 - 1985

		Hous	ing Units	- Net De	mand ²	Land Use Acres - Net Demand ³					
Neighbor-	Gross				Total				Total		
_ hood _	Population ¹	SF_	MF	MH	Units	SF	MF	MH	Acres		
1 2 3 4 5 6 7 8 9	16										
2	154										
, ,	134										
•											
, E	26			5	5			.85	05		
7	6			3	5			.65	.85		
,	128										
۵	120										
10											
11	38			7	7			1.19	1 10		
12	137			,	,			1.19	1.19		
13	13/										
14											
15	6										
16	108										
17	100										
18											
19	24										
20	6										
21	U										
22	6										
23	U										
24											
25	22										
26	38										
27	199			28	28			4 10			
28	199			28	28			4.76	4.76		
29	52										
30	6										
31	45			7	7			1 10			
32	45			7	,			1.19	1.19		
33	13										
33 34	31										
7 9 9	62										
999	UL.										
TOTAL	1,123			47	47			7.99	7.99		

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1985 - 1986

		Hous	ing Units	- Net De	mand ²	Land_U	se Acres	- Net De	mand3
Neighbor-	Gross				Total				Total
nood	Population ¹	SF	MF	MH	<u>Units</u>	SF	MF	MH	Acres
1	26	4	,		4	1.0			1.0
2 3 4 5 6 7 8 9	(44)								
3 #	(44)								
5									
6	25			8	8			1.36	1 20
7	10	2		0	2	.5		1.30	1.36
Ŕ	157	2 18	1		19	4.5	.08		.5
٩	137	10	1		19	4.5	•00		4.58
10									
11	37			12	12			2.04	2.04
12	191	18	2	•	19	4.5	.16	2.04	4.66
13			•		• • •	4.5	•••		7.00
14									
15	10	2			2	.5			.5
16	150	14	1		15	3.5	.08		3.58
17						• • • • • • • • • • • • • • • • • • • •			3.30
18									
19	29		1		1				
20	10	2			2	.5	.08		.58
21									
22	10	2			2	.5			.5
23									
24									
25	30	3			4	.75			.75
26	62	11			11	2.75			2.75
27	137			48	48			8.16	8.16
28		_							
29	(3)	2 2 2			2 2	.5			.5
30	10	2			2	.5 .5			.5
31	48	2		12	14	.5		2.04	2.54
32 33	21				_				
33 34	21	4 2	,		4	1.0			1.0
799	40 13	5	1		3 5	.5	.08		.58
999	13	5			5	1.25			1.25
TOTAL	969	93	6	80	179	23.25	.48	13.6	37.33

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1986 - 1987

		Hous	ing Units	- Net De	mand ²	Land Use Acres - Net Demand ³			
Neighbor-	Gross				Total				Total
<u>hood</u>	Population ¹	<u>SF_</u>	MF	MH	Units	SF	MF	MH	Acres
1 2 3 4 5 6 7 8 9	7	2			2	5			5
2									
3	(2)								
4									
5									
6	7			2	2 1			. 34	. 34
7	3	1 8			1	.25			.25
8	38	8	1		9	2.0	.08		2.08
9									
10									
11	10			2	2 9			. 34	
12	42	8	1		9	2.0	.08		2.08
13									
14									
15	3	1			1	.25			.25
16	32	1 6	1		1 7	1.5	.08		1.58
17									
18									
19	4								
20	3	1			1	.25			.25
21					-				
22	3	1			j	.25			.25
23					_				
24									
25	6	1			1	.25			. 25
26	18	4			4	1.0			1.0
27	39			9	9			1.53	1.5
28				•	•			1.55	1.5
29	3	1			1	.25			.2
30	3	ì			ī	.25			.2
31	13	1		2	3	.25		. 34	.59
32		-		_	J				
33	6	1			1	.25			.25
34	7	ĩ			i	.25			
799	6	1 2			2	.5			.25 .5
999	•	-			-	.,			.5
TOTAL	251	40	3	15	58	10.0	.24	2.55	12.79

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1987 - 1988

		Housing Units - Net Demand ²				Land Use Acres - Net Demand ³				
Neighbor- hood	Gross <u>Population</u> 1	SF_	MF	MH	Total <u>Units</u>	SF_	MF	МН	Total Acres	
1	(4)	(1)			(1)	(.25)			(.25)	
2 3 4 5 6 7	7									
4										
5										
6	(6)			(2)	(2)			(.34)	(.34)	
7	(1)	(1)			(1)	(.25)			(.25)	
8	(29)	(5)	(2)		(7)	(1.25)	(.16)		(1.41)	
9										
10 11	(9)			(3)	(3)			(51)	(51)	
12	(38)	(5)	(3)	(3)	(3) (8)	(1.25)	(.24)	(.51)	(1.51)	
13	(30)	(3)	(3)		(0)	(1.23)	(• 2 4)		(1.49)	
14										
15	(2)	(1)			(1)	(.25)			(.25)	
16	(30)	(4)	(2)		(6)	(1.0)	(.16)		(1.16)	
17			,		,,,,	(210)	(/		(-120)	
18										
19	(7)		(1)		(1)		(80.)		(80.)	
20	(2)	(1)			(1)	(-25)			(.25)	
21										
22	(2)	(1)			(1)	(.25)			(.25)	
23										
2 4 25	(6)	(1)			41.	(05)			(05)	
26	(9)	(3)			(1)	(.25)			(.25)	
27	(35)	(3)		(13)	(3) (13)	(.75)		(2.21)	(.75)	
28	(33)			(13)	(13)			(2.21)	(2.21)	
29		(1)			(1)	(.25)			(.25)	
30	(2)	(1)			(1)	(.25)			(.25)	
31	(11)			(4)	(4)	(100)		(.68)	(.68)	
32					•			,		
33	(3)	(1)			(1)	(.25)			(.25)	
34	(9)		(1)		(1)		(80.)		(.08)	
799 999	(2)	(1)			(1)	(.25)			(.25)	
TOTAL	(200)	(27)	(9)	(22)	(58)	(6.75)	(.72)	(3.74)	(11.21)	

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1988 - 1989

		Housing Units - Net Demand ²				Land Use Acres - Net Demand ³			
Neighbor- hood	Gross <u>Population</u> 1	SF	MF	Mu	Total	cc	MF	Mu	Total
	PODUTALION-	<u> </u>	<u> </u>	MH	<u>Units</u>	<u>SF</u>	mr_	MH	Acres
1	(1)	(1)			(1)	(.25)			(.25)
2									
2 3 4 5	(31)								
4									
5									
6 7	(2)			(1)	(1)			(.17)	(.17.
7	(1)								
8	(12)	(2)			(2)	(.5)			(.5)
9									
10									
11	(2)			(1)	(1)			(.17)	(.17)
12	(11)	(2)			(2)	(.5)			(.5)
13									
14									
15									
16	(8)	(2)			(2)	(.5)			(.5
17	1-7	,			(2)	(,			(• •
18									
19	(2)								
20	(1)								
21	(-/								
22	(1)								
23	(*/								
24									
25	(2)	(1)			(1)	(.25)			. 25 \
26	(3)	(2)				(.5)			(.25)
27	(19)	(2)		(4)	(2)	(.5)			(.5)
28	(19)			(4)	(4)			(.68)	(.68)
29	(10)								
30	(1)								
30 31									
32 32	(3)			(1)	(1)			(.17)	(.17)
32	/1)	(3.)							
33 34	(1)	(1)			(1)	(.25)			(.25)
7 9 9	(2)	(1)			44.				
999	(10)	(1)			(1)	(.25)			(.25)
TOTAL	(123)	(12)		(7)	(19)	(3.0)		(1.19)	(4.19)

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1989 - 1990

		Housing Units - Net Demand ²				Land Use Acres - Net Demand3			
Neighbor-	Gross				Total			Total	
hood	Population ¹	SF_	MF	MH	Units		MF MH	Acres	
I	(21)	(4)			(4)	(1.0)		(1.0)	
2 3 4 5 6 7 8 9									
3	(51)								
4									
5									
6	(24)			(8)	(8)		(1.36)	(1.36)	
7	(9)	(2)			(2)	(.5)		(.5)	
8	(160)	(19)			(19)	(4.75)		(4.75)	
9									
10									
11	(36)			(12)	(12)		(2.04)	(2.04)	
12	(190)	(19)			(19)	(4.75)		(4.75)	
13									
14									
15	(9)	(2)			(2)	(.5)		(.5)	
16	(151)	(14)			(14)	(3.5)		(3.5)	
17									
18									
19	(34)								
20	(9)	(2)			(2)	(.5)		(.5)	
21									
22	(9)	(2)			(2)	(.5)		(.5)	
23									
24									
25	(30)	(3)			(3)	(.75)		(.75)	
26	(52)	(11)			(11)	(2.75)		(2.75)	
27	(159)			(46)	(46)		(7.82)	(7.82)	
28									
29	(24)	(2)			(2)	(.5)		(.5)	
30	(9)	(2)			(2)	(.5)		(.5)	
31	(45)	(2)		(12)	(14)	(.5)	(2.04)	(2.54)	
32									
33	(17)	(4)			(4)	(1.0)		(1.0)	
34	(43)	(2)			(2)	(.5)		(.5)	
799	(36)	(4)			(4)	(1.0)		(1.0)	
999									
TOTAL	(1,118)	(94)		(78)	(172)	(23.5)	(13.26)	(36.71)	

Table 8-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE
Continued

1990 - 1991

1990 - 1991											
		Hous	ing Units	- Net Der	nand ²	Land Use Acres - Net Demand ³					
Neighbor-	Gross				lotal		we	Mti	Total		
hood	Population1	SF_	MF_	<u>MH</u> _	Units	SF	MF	<u>MH</u>	Acres		
1	(3)										
1 2 3 4 5 6 7 8											
3	(79)										
4											
5	4.63			(1)	(1)			(.17)	(.17)		
6	(3)			(1)	(1)			(***)	••••		
7	(1)										
8	(28)										
9											
10	(5)			(2)	(2)			(.34)	(.34)		
11	(5)			(2)	(2)			,,,,			
12	(23)										
13											
14	(1)										
15	(18)										
16	(10)										
17											
18 19	(4)										
20	(1)										
21	(1)										
22	(1)										
23	\-/										
24											
25	(3)										
26	(7)										
27	(42)			(6)	(6)			(1.02)	(1.02)		
28	• • •										
29	(24)										
30	(1)										
31	(6)			(2)	(2)			(.34)	(.34)		
32											
33	(2)										
34	(5)										
799	(26)										
999											
TOTAL	(283)			(11)	(11)			(1.87)	(1.87)		

Table B-4
ALLOCATION OF CHEYENNE AREA PROJECT-RELATED INMIGRANT GROWTH AND DECLINE TO NEIGHBORHOODS POPULATION, HOUSING, AND LAND USE YEAR-TO-YEAR CHANGE Continued

1991 - 1992

		Hous	ing Units	- Net De	mand ²	Land Use Acres - Net Demand ³			
Neighbor- hood	Gross <u>Population</u> l	_SF_	MF	MH	Total Units	SF	MF	MH	Total Acres
1000	ropa la Cion-				011115			mn	ACTES
1									
1 2 3 4 5 6 7 8 9									
3									
4 5									
6									
7									
8									
9									
10									
11 12									
13									
14									
15									
16									
17									
18									
19									
20 21	<u>.</u>								
21 22									
23									
24									
25 26									
26									
27				(1)	(1)			(.17)	(.17)
28 29									
29 30									
30 31									
32									
32 33									
34									
799 999									
TOTAL				(1)	(1)			(.17)	(.17)

Table B-5

CHEYENNE URBAN AREA - PROJECT IMPACT
ALLOCATION OF DEMAND FOR OTHER HOUSING ACCOMMODATIONS

(Year-to-Year Change by Unit)

<u>Neighborhood</u>	1983 - 1984	1984 - 1985	1985 - 1986	1986 - 1987	1987 - 1988	1988 - 1989	1989 - 1990	1990 - 1991	1991 - 1992
003 008	18 3	61 7	(12) (1)	(7) (1)	1 0	(11) (2)	(22) (3)	(28) (4)	0
027 029	5 5	18 18	(4) (4)	(2) (2)	0	(3) (3)	(6) (6)	(8) (8)	0
799	5	18	(3)	(2)	0	(3)	(6)	(8)	0
TOTAL:	36	122	(24)	(14)	1	(22)	(43)	(56)	0

APPENDIX C

APPENDIX C

DETAILED METHODOLOGY FOR THE REGIONAL RECREATION ANALYSIS

C.1 Baseline Future - No Action Alternative

The No Action baseline scenario was developed by converting the measurement units that various agencies use to define existing conditions (i.e., visitors, visitor days, activity days, etc.) into one consistent set of visitation units, thereby allowing a valid comparison of recreational areas. Activity day units were selected for use in this analysis since they can be compared to the population-based usage rates the Wyoming Recreation Commission (WRC) uses to predict participation. An activity day is defined as a single occurrence of a recreational activity lasting for any period of time up to 12 hours. For instance, 1 person engaging in 5 different activities at a particular site during 1 day would account for 5 activity days.

Although activity day units may not be the best indicator of visitation for individual recreational areas, it was necessary to use such units in this analysis because the per capita participation rates derived from the Wyoming State Comprehensive Outdoor Recreation Plan (SCORP) and the Water Resources Research Institute (WRRI) report were available only in activity (participation) day units. As discussed in the next section (C.2 Proposed Action), the per capita participation rates were used to determine total recreational use generated by the project-induced population within the region. Since the visitation values by activity for each recreational area are used as attractiveness factors to predict induced recreational participation, the two sets of numbers must be compatible for use in the gravity allocation model. Therefore, all visitation values were converted into activity day units.

The methodology used to convert visitation data into activity day units varied by recreational jurisdiction since measurement units were jurisdictionally different. Where possible, documented data were supplemented by opinions of recreation managers knowledgeable about the region, onsite observations, and professional judgment to make the conversions. Details of the conversion process are provided below.

Wyoming Game and Fish areas and Colorado State Park and Recreation areas already use activity day units for measurement purposes. National Forest System lands were converted from visitor-day units which are based on 1 or more occurrences of a recreational activity totaling a 12-hour day. The total number of visitor days by activity at each recreational area was converted into activity days by multiplying by 12 hours and dividing by the average length of time spent participating in a given activity as estimated by the U.S. Forest Service (USFS). The result of this process was a substantial increase in the actual visitation values for each activity since activity days are, by their nature, higher than visitor days.

In the case of Wyoming state parks, which use the percentage of total visitors participating in each activity to define visitation, conversion to activity days was accomplished by multiplying the estimated number of visitors participating in a given activity by the average length of time spent participating in that activity. The time estimates were derived from WRC data. Available data are maintained from May through September only, so the estimates were

increased by a professionally judged 10 percent to account for limited participation during the October to April period. Swimming was exempted since this activity rarely occurs during the winter.

The use of professional judgment was particularly important in converting Nebraska state lands visitation data (i.e., at state parks, recreation areas, and wildlife management areas) into activity days. Since the only visitation data available in most cases were based on total visitors, the percentage participating in each activity had to be estimated from discussions with recreation staff as well as from site investigations. It was then assumed that, for all activities except camping, the number of activity days was generally equal to the number of visitors participating since they are essentially 1-day activities. Activity days for camping, however, were calculated using average camping time estimates provided by the Nebraska Game and Parks Commission (NGPC).

After all visitation values had been made compatible, no attempt was made to forecast them to the peak or settlement years; that is to say, it was assumed for purposes of this analysis that existing visitation levels would continue to exist throughout the forecast period. Visitation tends to exhibit broad swings from year to year depending upon a wide variety of factors such as population shifts, economic conditions, social and demographic characteristics. recreational facility conditions (addition of new areas or alterations to existing ones), etc., that affect the amount of use received by an area. The assumption that existing conditions would be applicable in 1987 and 1991 has the effect of holding all other parameters constant and varying population only. What is significant to this analysis is that, although it is recognized that some changes in visitation are likely to occur by 1987 and then again by 1991, relative visitation levels are expected to remain essentially the same. For example, it is anticipated that visitation levels at Rocky Mountain National Park and most other USFS lands will continue to be significantly higher than at all other areas. Similarly, the various state parks are likely to continue having higher visitation levels than game and fish areas. Since No Action baseline visitation values are only important as inputs to the gravity allocation model used to forecast project induced visitation, existing values adequately reflect expected recreational area visitation relationships.

C.2 Proposed Action

Project impacts on the regional recreation system are related to the estimated increase in population that occurs within the Region of Influence (ROI) as a result of the Proposed Action. As population increases, so does the demand for recreational participation at the various recreational areas within the ROI. The methodology used for determining the increase in recreation demand involved two basic steps: first, the total induced recreation participation by activity was calculated for the cities of Cheyenne, Wheatland, and Torrington and, second, each activity total was allocated to individual recreational areas within the ROI. These three communities account for the largest average annual inmigrant population increase in absolute numbers in peak year.

The WRRI report provided population estimates and participation rates for four age groups in 1977 and 1995. The age groups are: less than 18 years, 18 to 44 years, 45 to 64 years, and 65 years and older. The size of each age group was expressed as a percentage of an estimated total population. Since the age cohorts used in the WRRI projections did not match the age cohorts used in the impact population analysis for this project (see the Socioeconomic EPTR), it was decided to compare WRRI's less than 18-year group with the combined 0 to 4, 5 to 9, 10 to 14, and 15 to 19-year old age cohorts used in the projectrelated population analysis. WRRI's 18 to 44-year old age cohort was compared with a combination of the 20 to 24, 25 to 29, 30 to 34, 35 to 39, 40 to 44, and 45 to 49-year old age cohorts used in the project analysis. It was determined that the resulting 20 to 49-year old project-related age group should be compared with WRRI's 18 to 44-year old age group equivalent since the next cohort used in the WRRI study ranged from 45 to 64 years. The combined 20 to 49-year age group was considered to be more similar to WRRI's 18 to 44 year age cohort in terms of recreational participation than to the entire 45 to 64-year age cohort. No age groups over 49-years old are expected to migrate into the region as a result of the project.

The next step was to adjust the 1977 and 1995 statewide population estimates in the WRRI report to the peak year (1987) and the settlement year (1991). This was accomplished by simple linear interpolation. The WRRI estimates and the peak-year and settlement-year interpolations are shown in Table C-1.

TABLE C-1

PROJECTION OF POPULATION BASED ON WRRI PROJECTIONS 1977-1995

(in thousands)

	<u>1977</u> a	<u>1987</u> b	<u>1991</u> b	1995 ^a
Total Population	424,2	501.4	532.5	563.4
Under 18 Years	154.0	172.5	179.2	185.4
Distribution of Age				
Class in Population	0.363	0.344	0.336	0.329
18-44 Years	147.6	174.0	185.3	194.9
Distribution of Age				
Class in Population	0.348	0.347	0.347	0.346

Notes: a Based on Carlson and Phillips, Water Resources Research Institute, 1980.

b Interpolated to peak year and settlement year.

For each age group, the percentage of the group that participates in each recreational activity is given in the WRRI report. This factor was multiplied by the estimated total size of the age cohort, which yielded the number of persons in an age group that participates in a given activity. Next, this number was multiplied by the participation rate given in the WRRI report, which reflects the average number of days during a year that participants in a given activity actually take part in that activity. This yields the total number of activity (participation) days for a particular activity. The

activity days for the less than 18 and the 18 to 44-year age groups were summed and divided by the sum of the total estimated population in those age groups, yielding a per capita rate for the 0 to 44-age group in each activity.

The per capita rates reflect the average number of times each person living in the three communities (i.e., Cheyenne, Wheatland, and Torrington) would participate in a given activity and are expressed in activity days. These are average numbers and do not mean that every person will actually participate in each or even a single activity during a given year. Some residents will participate a higher number of times, others a lower number, and some not at all. This rate was then applied to the project-related population to obtain total increased activity days generated by the three population centers.

In some instances, the WRRI provided participation figures for more specialized activities than those considered herein. For instance, separate estimates were available for upland, big game, and small game hunting but they were all aggregated into one hunting category. In the case of off-road vehicle (ORV) use, the motorbikes category shown in the WRRI report was used as a proxy since an ORV category was not included in the document and motorbikes appears to be the most similar in characteristics to ORV use.

Per capita participation rates were derived for each of the ten activities in the Draft EPTR and EIS by dividing resident participation day (used by the WRC synonymously with activity day) estimates for 1979 and 1990 by statewide population estimates provided in the SCORP for those same years. The 1990 rates were used for the settlement-year analysis while interpolated 1987 rates were used for the peak-year analysis. These rates, which did not allow any weighting to reflect age differences between the project-impact population and existing Wyoming residents to be performed, are shown in comparison to the WRRC-derived rates in Table C-2.

TABLE C-2

PER CAPITA RECREATION PARTICIPATION RATES, BY ACTIVITY,
IN THE PEAK YEAR (1987) AND SETTLEMENT YEAR (1991)

(in Activity Days)

	198	87	19	991
Activity	WRR I 1	SCORP ²	WRRI1	SCORP ²
Camping	5.64	5.42	5.66	5.48
Picnicking	5.00	4.65	5.02	4.65
Skiing	1.19	0.88	1.03	0.91
Swimming	4.34	2.98	4.33	2.99
Fishing	4.72	4.92	4.71	4.97
Hunting	3.94	3.56	3.96	3.55
Boating	1.76	1.49	1.77	1.44
Hiking/Horseback Riding	5.00	4.10	4.99	4.10
Snowmobiling/Cross-Country	1.72	1.82	1.73	1.87
ORV Use	2.94	2.44	2.94	2.48

Notes: 1 WRRI-derived estimates reflect age cohort analysis of the inmigrant population.

2 SCORP-derived estimates assume similar participation rates between the inmigrant population and the existing statewide population.

Source: SCORP: Calculated from Wyoming Recreation Commission, Wyoming SCORP, 1980. WRRI: Carlson and Phillips (1980), Projections of Outdoor Recreation for Wyoming, 1995.

As shown in the table, the age-weighted rates from the WRRI for most activities are somewhat higher than the unweighted rates from the SCORP. The only exceptions are fishing and snowmobiling/cross-country skiing.

A comparison of total activity days in 1987 and 1991 using the WRRI-derived estimates and the SCORP-derived estimates is shown in Table C-3.

TABLE C-3

COMPARISON OF TOTAL COMBINED ACTIVITY DAYS: WRRI VERSUS SCORP DATA 1987 and 1991
(in thousands)¹

		198	37	<u> </u>	1991	
Activity	WRR12	SCORP3	Chg % Chg	WRRI2 SCORP	3 Chg	% Chg
Camping Picnicking Skiing Swimming Fishing Hunting Boating	17.20 15.25 3.63 13.24 14.40 12.02 5.37	16.53 14.18 2.68 9.09 15.00 10.86 4.55	0.67 4.1 1.07 7.5 0.95 35.3 4.15 45.6 -0.61 -4.2 1.16 10.7 0.82 18.1	5.24 5.07 4.64 4.30 0.95 0.84 4.01 2.77 4.36 4.60 3.66 3.28 1.64 1.33	0.16 0.34 0.11 1.24 -0.24 0.38 0.31	3.2 7.9 13.2 44.9 -5.2 11.5 22.9
Hiking/Horse- back Riding Snowmobiling/ Cross-Country Skiing ORV Use	15.25 5.25 8.97	12.51 5.55 7.44	2.75 22.0 -0.30 -5.5 1.53 20.5	4.62 3.79 1.60 1.73 2.72 2.29	-0.13 0.43	21.7 -7.5 18.5
	110.57	98.39	12.17 12.4	33.43 30.01	3.42	10.2

Notes: 1 Sums may not be exact due to rounding.

- 2 WRRI-derived estimates reflect age cohort analysis of the inmigrant population.
- 3 SCORP-derived estimates assume similar participation rates between the inmigrant population and the existing statewide population, adjusted to give effect to new inmigrant population estimates and the inclusion of Wheatland and Torrington.

The total increased demand for recreation, by activity, that is attributed to project-induced population growth in the Cheyenne Urban Area, Wheatland, and Torrington was estimated by multiplying the forecast peak-year and settlement-year impact population levels by the various per capita participation rates. Having estimated total demand for each activity, the next step was to allocate total activity days for each activity to the various recreation areas within the ROI.

C.2.1 Calculation Of Induced Recreational Participation

The Cheyenne Urban Area, Wheatland, and Torrington were used as the generators of recreation demand for purposes of the regional recreation analysis since these three communities, together, account for the largest annual average inmigrant population in absolute numbers during the project peak year. Although a few other communities are also forecast to experience population influx as a result of the Proposed Action, the combined increase at these other communities during peak year (1987) represents only about 5 percent of the total increase occurring within the ROI. Therefore, communities with

relatively low or no population increases during the peak year (i.e., Albin, Chugwater, Pine Bluffs, Gering-Scottsbluff, and Kimball) were not considered in the regional recreation analysis. In the settlement year (1991), no community other than the Cheyenne Urban Area will generate regional recreation demand as a result of project-related population increases.

Two forecast years, i.e., peak year (1987) and settlement year (1991), were selected for analysis. The peak year represents the point during the short-term construction period when population inmigration and, therefore, induced recreational demand would be highest. In contrast, the settlement year represents the point when inmigrant population and induced recreation demand level off after construction is completed. Inmigrant population forecasts for these 2 years are shown below.

	<u>1987</u>	<u>1991</u>
Cheyenne	2,625	925
Wheatland	200	0
Torrington	225	0
TOTAL:	3,050	925

Approximately 10 percent of the peak-year total impact population is projected to be transient. Such transient population may or may not demonstrate recreational demand behavior similar to the rest of the impact population, but it was assumed for purposes of this analysis that all inmigrant population would participate in a similar manner.

Recreational participation rates were calculated from projections provided in a report to the WRC by the WRRI at the University of Wyoming (Carlson and Phillips 1980). These rates were applied to the ten outdoor activities considered in this analysis (i.e., camping, picnicking, skiing, swimming, fishing, hunting, boating, hikirg/horseback riding, snowmobiling/cross-country skiing, and ORV use). These rates have been updated from the rates used in the Draft EPTR and EIS which were derived from the Wyoming SCORP.

The participation rates used in the Draft EPTR and EIS did not take into account variations in use according to age cohorts. Since the project-related inmigrants will differ from the resident population in terms of age distribution, it was necessary to revise the participation rates to reflect the projected age distribution of the project-related population in the peak year and the settlement year.

C.2.2 Allocation of Demand to Recreation Areas

It was assumed for purposes of this analysis that 95 percent of the total induced demand for each activity would occur at regional recreation areas within the ROI. The remaining 5 percent was assumed to occur either at private facilities such as campgrounds, swimming pools, ski areas, or other private lands within the ROI, or at regional recreational areas outside the ROI. For that 5 percent, no destination determination was attempted.

Of the induced demand occurring within the ROI, allocations to the individual areas were made using a gravity model approach in which visitation values were used as attractiveness factors and travel times as friction factors. This model is a variation of a common approach to origin destination studies (e.g., Isard 1960, Krueckeberg and Silvers 1974, Sutherland 1980). The basic equation is as follows:

$$P_{ijk} = P_{ij} \cdot \left[\frac{\frac{W_{jk} \cdot V_{ik}}{t_{jk}}}{\frac{W_{jk} \cdot V_{ik}}{t_{jk}}} \right]$$

where: Pijk = activity (participation) days of activity i originating in population center j and spent at recreation area k

Pij = activity (participation) days of activity i originating in population center j

Wjk = demand-weighting factor for population center j to recreation area k

Vik = visitation in participation (activity) days of activity i spent at recreation area k

tjk = travel time from population center j to recreation area k

In the case of this analysis, activity i represents each of the ten recreational activities being forecast, population center j represents each of the three Wyoming cities considered, and recreation area k represents each of the regional recreational areas within the ROI. Essentially, the model states that the number of recreational activity days generated by the project-induced population of Cheyenne, Wheatland, and Torrington which is then attracted to a given recreation area, is dependent upon three factors:

- It is proportional to the total activity days generated by that population, regardless of their destination;
- 2) It is proportional to the total existing activity days spent at that given recreational area, regardless of origin; and

3) It is inversely proportional to the travel time between the residence of that population and the given recreational area.

The attractiveness factor used in the equation (i.e., visitation in activity or participation days of activity i spent at recreation area k) indicates, for a given activity, the relative attractiveness of a given recreation area to residents of each city. All other factors being equal, those areas exhibiting the highest activity day estimates are considered the most attractive. Generally, the No Action baseline activity day estimates were used as attractiveness factor inputs to the model. In the case of hunting and fishing at Colorado and Nebraska recreation areas, however, activity day estimates of zero were used rather than the estimates shown in the table so that negligible induced demand for hunting or fishing by residents of the three communities would be allocated to those areas. This was done to account for the fact that Wyoming residents generally do not participate in those activities out of state because of high nonresident license fees.

The demand weighting factors used in the equation were developed to emphasize or de-emphasize the attractiveness of certain recreational areas. According to knowledgeable recreation managers, Wyoming residents are generally less apt to travel to recreation areas in Colorado and Nebraska than they are to those in Wyoming. This trend is attributed to a variety of factors including the greater availability of open space in Wyoming, the greater knowledge of Wyoming areas on the part of state residents, the less crowded conditions and greater landscape variability at many Wyoming areas, and the licensing requirements mentioned before. Because of this existing recreational travel pattern, the demand weighting factor increases the attractiveness of Wyoming areas compared to Colorado and Nebraska areas for purposes of model allocation.

All Wyoming recreation areas were assigned weights of 2.0, resulting in a doubling of the attractiveness value for those areas. Nebraska and Colorado areas, on the other hand, were assigned weights of 1.0 and 0.5, respectively, to account for the lower probability of travel to those areas from Cheyenne, Wheatland, and Torrington. The particularly low weight given to Colorado areas also takes into account the fact that the relatively high activity day estimates for many of them are largely a result of their proximity to the large population centers of Denver, Boulder, Fort Collins, Greeley, and others. Several weighting variations were tested to create a combination which maximizes the accuracy of the model. The particular combination selected produced the best results statistically during model calibration.

The final component of the equation is the friction factor which is based on travel time from Cheyenne, Wheatland, or Torrington to each recreation area. This factor is inversely related to the number of activity days originating in each city that is spent at any given recreational area. In other words, as travel time from a city (e.g., Cheyenne) to a given area increases, the likelihood or frequency of travel to that area for recreational participation declines.

Travel times were calculated by first measuring the driving distance between each city center and each recreation area using highway maps and other maps depicting roadway locations. Limited access highways and other primary roads were then assigned 55 miles per hour (mph' speed limits, secondary highways

and rural local roads were assigned 45 mph speed limits, and unpaved and gravel roads were assigned 35 mph speed limits. Using these speed limits in conjunction with distance, total travel time in minutes from each of the three cities to each recreation area was determined.

As shown in the equation, an exponent is used to increase the variations between each set of travel times, thereby providing greater differentiation in the willingness-to-travel values for each recreation area. Different exponents were tested in an effort to identify the one that most closely predicted existing travel patterns. An exponent of 1.5 was found to produce the best results statistically during model calibration. This exponent value indicates that residents are generally willing to travel fairly long distances for participation in recreational activities.

Using a computer to perform all calculations, the model was run for all recreational areas included in the No Action baseline analysis. The weighted activity day-to-travel-time ratio for each recreational area was divided by the sum of all recreation area ratios for a given activity to derive the percentage of each community's total project-induced activity demand that would occur at each area. The result of this calculation was then multiplied by the number of activity days expected to be generated by the impact population to determine the induced number of activity days of demand for each area.

Project-related impacts were determined by comparing the percentage increase in activity days forecast at each area to their existing capacities. Data on capacity were primarily obtained from subjective evaluations made by local area recreation managers, as well as from site investigations. Since capacity data are generally sketchy and nonquantifiable for most of the areas, professional judgement was used in assessing the impact on the quality of the recreational experience.

APPENDIX D

APPENDIX D REGIONAL RECREATION IMPACT TABLES

The tables included in this Appendix summarize anticipated increases in activity participation pressure at each of the resource-based recreation areas within the Region of Influence (ROI) as a result of the project. Table D-1 relates to peak year (1987) when population inmigration is greatest while Table D-2 relates to settlement year (1991) when population inmigration levels off. These anticipated increases, determined from the computerized gravity allocation model developed for this study, form the basis to evaluate potential impacts an each area within the Area of Concentrated Study (ACS).

Both tables include two lines of numbers associated with each recreation area listed; the first line shows the total increase in activity days of pressure generated by project-related or induced population in Cheyenne while the second set of numbers indicates the percentage increase of that pressure over baseline activity. Recreation areas noted with the superscript 2 are included within the ACS.

Table D-1

INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESNIRCE-RASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

	Activities							Hiking/	Snowmobiling/	_	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Horseback Riding	Country	ORV Use	TOTAL
Rocky Mountain National Park	942. 0.1	346. 0.2	62. 0.1	0.0	0.0	0.0	0.0	1599. 0.3	36. 0.2	0.0	2985. 0.2
Medicine Bow National Forest (Pole Mountain Unit) ²	1852. 1.8	1210. 2.4	0.0	0.0	2387. 3.2	3276. 8.6	0.0	1903. 3.5	893. 3.4	535. 10.5	12057. 3.4
Medicine Bow National Forest (Medicine Bow Unit) ²	865. 0.5	987. 0.7	77. 0.6	129. 3.2	1187. 1.0	2967. 2.6	234. 1.0	899.	1617. 1.1	256. 3.2	9218. 1.1
Medicine Bow Nationa) Forest (Hayden Unit) ²	247. 0.3	31°. 6.4	0.0	0.0	123. 0.5	204. 1.4	47. 0.5	76. 0.6	22. 0.6	151. 1.7	1190. 0.5
Medicine Bow National Forest (Laramie Peak Unit) ²	162. 0.4	481. 0.6	0.0	0.0	224. 0.8	476. 2.0	0.0	273. 1.0	295. 0.9	584. 2.6	2494. 1.0
Thunder Basin National Grassland	12. 0.3	57. 0.4	0.0	75. 1.6	77. 0.6	323. 1.4	0.0	15. 0.6	47. 0.6	98. 1.7	703. 0.9
Arapaho National Forest	346. 0.1	315. 0.1	534. 0.1	82. 0.3	0.0	.0.0	45. 0.1	733. 0.1	385. 0.1	359. 0.3	2800. 0.1
Roosevelt Mational Forest	1684. 0.2	3193. 0.3	843. 0.2	638. 1.2	0.0	0.0	352. 0.4	3412. 0.4	848. 0.4	1362. 1.2	12333. 0.3
Routt National Forest	211. 0.0	106. 0.1	43.	16. 0.3	0.0.	0.0	13. 0.1	310. 0.1	225. 0.1	256. 0.3	1180. 0.1
Pike National Forest	430. 0.1	527. 0.1	0.0	153. 0.3	0.0	0.0	23. 0.1	989. 0.1	41.	1981. 0.3	4144.
White River National Forest	740.	331.	1941. 0.1	119. 0.3	0.0	0.0	162. 0.1	1013. 0.1	390. 0.1	240. 0.3	4936. 0.1
Pawnee National Grassland	20. 0.2	118. 0.3	0.0	0.0	.0.0	0.0	0.0	24. 0.5	0.0	8. 1.4	170. 0.3
Nebraska National Forest	5. 0.1	58. 0.2	0.0	0.0	0.0	0.0	0.0	14. 0.3	0.0	272. 0.7	350. 0.4
Oglala National Forest	6.	62.	0.0	0.0	0.0	0.0	0.0	16. 0.3	0.0	47.	132. 0.2

TABLE D-1, CONTINUED INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

	Activities							Hiking/	Snowmobiling/	<u>`</u>	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
North Platte National Wildlife Refuge	0.0	0.3	0.0	7.	0.0	.0.0	0.4	9.0 0.6	0.0	0.0	19. 0.5
Bamforth National Wildlife Refuge ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2. 1.6	0.0	0.0	2. 1.6
Hutton Lake Natjonal Wildlife Refuge ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8. 1.7	0.0	0.0	8.
Crescent Lake National Wildlife Refuge	0.0	0.0	0.0	0.0	0.2	0.4.	0.0	0.0	0.0	0.0	1.
Arapaho National Wildlife Refuge	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.5
BLM (Niobrara, Natrona, Converse, Goshen, Platte) ²	4.	 0.3	0.0		33. 0.4	2066. 0.9	0.0	9. 4	15. 0.4	17. 1.1	2148. 0.9
BLM (Laramie, Albany, Carbon) ²	1049. 0.3	121. 0.4	0.0	14. 1.7	1027. 0.5	1329. 1.4	161. 0.5	62. 0.6	124. 0.6	1011.	4897. 0.6
BLM (Eagle) ²	2. 0.0	0.0	0.0	0.0	.0.0	0.0	6.	0.0	16. 0.1	12. 0.2	36. 0.1
BLM (Routt, Moffat)	2. 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2. 0.1	9.3°	7. 0.1
BLM (Jackspn)	0.0	0.0	0.0	0.0	.0.0	0.0	0.0	0.0	0.0	31. 0.5	31. 0.5
BLM (Grand)	1. 0.1	0.0	0.0	0.0	0.0	0.0	48. 0.1	0.0	0.0	0.0	49. 0.1
Curt Gowdy State	3252. 3.3	2249. 4.5	0.0	0.0	5151. 6.0	0.0	1009. 6.0	1184. 6.5	0.0	508. 19.5	13354. 4.9
Glendo State Park ²	1681. 0.6	670. 0.9	0.0	2368. 3.3	1463. 1.3	0.0	1031. 1.0	345. 1.5	0.0	271. 3.9	7829. 1.2
Guernsey State Park ²	1163. 0.7	709. 1.0	0.0	2309. 3.5	200. 1.5	0.0	640. 1.1	411.	0.0	217. 4.3	5650. 1.4
Seminoe State Park ²	55. 0.2	14. 0.3	0.0	44. 1.4	48.	0.0	20. 0.4	9.	0.0	8.	198. 0.4
Alsop Lake ²	0.0	0.0	0.0	0.0	60.	0.0	0.0	0.0	0.0	0.0	60. 1.7

TABLE D-1, CONTINUED INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

	Activities							Hiking/ Horseback	Snowmobiling/	, t	
Recreational Areas	Camping	Picnicking	Skting	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Gelatt Lake ²	1. 0.8	0.0	0.0	0.0	34. 1.5	4 .1.	0.0	0.0	0.0	0.0	43.
Grayrocks Reservoir ²	1. 0.9	0.0	0.0	0.0	9. 1.8	4.3	1.4	0.0	0.0	0.0	20.
Hawk Springs Reservoir ²	0.0	0.0	0.0	0.0	23.	0.0	0.0 0.0	0.0	0.0	0.0	23.
Johnson Lake ²	0.0	0.0	0.0	0.0	8. 1.2	0.0	0.0	0.0	0.0	0.0	8. 1.2
Johnson Reservoir #32	2.8	8.0.		21. 10.6	241. 5.3	13. 13.0	 	0.0	0.0	0.0	292. 5.5
Lake Hattie ²	64.	0.0		182. 4.2	236. 1.3	0.0	98. 1.3	0.0	0.0	0.0	581. 1.5
laramie Peak Wildlife Unit ²	1. 0.6	0.0	0.0	0.0	1.1	25. 2.7	0.0	0.0	0.0	0.0	33. 1.9
Laramie River ²	3.	0.0	0.0	0.0	39.	0.0	0.0	0.0	0.0	0.0	42. 1.3
Leasenby Lake ²	0.0	0.0	0.0	0.0	25. 1.3	0.0	0.0	0.0	0.0	0.0	25. 1.3
Meeboer Lake ²	26. 0.8		0.0	0.0	97. 1.5	3.9	41.	0.0	0.0	0.0	168. 1.3
North Platte River (Glendo Power Plan Site) ²	2. 0.6	0.0	0.0	0.0	17.	3.	0.0	0.0	°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°	0.0	22. 1.2
Packers Lake ²	1. 0.9	0.0	0.0	0.0	4. 2.0	0.0	0.0	0.0	0.0	0.0	5.
Rawhide Creek ²	0.0	0.0	0.0	0.0	1.2	13.	0.0	0.0	0.0	0.0	15.
Rock Lake ²	0.0	0.0	0.0	0.0	22. 7.4	18. 18.1	4.5	0.0	0.0	0.0	45. 9.0
Springer Wildlife Unit?	58. 1.3	82. 1.8	0.0	59. 5.9	3.0	283. 6.2	91. 2.0	0.0	0.0	0.0	582. 3.0

TABLE D-1, CONTINUED INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

	Activities							Hiking/ Horseback	Snowmobiling, Cross	_	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Table Mountain Wildiife Unit ²	2. 0.8	0.0					0.0		0.0	0.0	81. 3.5
Iwin Buttes Reservoir ²	29. 0.8						41. 1.4		0.0	0.0	517. 1.6
Wheatland Reservoir #12	1.5	2.1					6. 2.1		0.0	0.0	32.
Wheatland Reservoir $\$3^2$	40. 0.6	0.0					68. 1.0		0.0	0.0	254. 0.9
Pennock Mountain Wildlife Unit ²	0.0						0.0		0.0	0.0	13. 1.2
Wick Brothers Big Game Unit ²	3.						0.0		0.0	0.0	52. 2.0
Colorado State Forest	13. 0.1						0.1		0.0	0.0	35. 0.1
Barbour Ponds State Recreation Area	25. 0.2	74. 0.3	0.0	0.0	0.0	0.0	3.	20. 0.4	0.0	0.0	122. 0.3
Boyd Lake State Recreation Area	31. 0.4						120. 0.7		0.0	0.0	234. 0.6
Barr Lake State Recreation Area	31. 0.1	42. 0.2					9.		0.0	0.0	156. 0.2
Castlewood Canyon State Recreation Area	0.0	17. 0.1					0.0		0.0	0.0	65. 0.1
Chatfield Reservoir State Recreation Area	21. 0.1						46. 0.1		0.0	0.0	885. 0.2
Cherry Creek State Recreation Area	20. 0.1	269. 0.1					119. 0.2		0.0	0.0	1378. 0.2
Jackson State Recreation Area	29. 0.1	55. 0.1	0.0	81. 0.6			28. 0.2		0.0	0.0	198. 0.2
Eldorado Canyon State Park	0.0	18. 0.1					0.0	106. 0.2	0.0	0.0	140. 0.2
Golden Gate Canyon State Park	18. 0.1	187. 0.1					0.0		0.0	0.0	348. 0.1

TABLE D-1, CONTINUED INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

	Activities							Hiking/	Snowmobiling/	<u> </u>	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Steamboat Lake State Park	17. 0.0	7.	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	29. 0.0
Lory State Park	1. 0.3	25. 0.4	0.0	10. 1.7	0.0	0.0	1. 0.5	94. 0.6	0.0	0.0	131. 0.5
Lake Minatare State Recreation Area	377. 0.3	440. 0.4	0.0	903. 1.3	0.0	0.0	148. 0.4	39. 0.7	17. 0.6	94. 1.6	2018. 0.5
Chadron State Park	104. 0.1	121. 0.1	0.0	276. 0.5	0.0	0.0	43. 0.2	10. 0.2	4.	26. 0.6	585. 0.2
Fort Robinson State Park	213. 0.1	247. 0.2	0.0	554. 0.6	0.0	.0.0	87. 0.2	20.3	6.0	53. 0.7	1183. 0.2
Box Butte Reservoir State Recreation Area	32. 0.1	37. 0.1	0.0	89. 0.5	0.0	.0.0	14. 0.2	3.	1. 0.2	8. 0.6	183. 0.2
Bridgeport State Recreation Area	149. 0.2	173. 0.3	0.0	378. 0.9	0.0	0.0	60.	15. 0.4	6.	37. 1.1	818. 0.4
Lake McConaughy State Recreation Area	213. 0.1	246. 0.2	0.0	602. 0.6	0.0	0.0	92. 0.2	19. 0.2	.2°.0	53. 0.7	1234. 0.2
Wildcat Hills State Recreation Area/Wildlife Management Area	11. 0.3	19. 0.5	0.0	0.0	0.0	0.0	0.0	24. 0.8	0.0	0.0	55. 0.5
Nine Mile Creek Wildlife Management Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1. 0.6	0.0	0.0	1. 0.6
Upper North Crow Reservoir ²	2 16. 1.8	23. 2.5	0.0	101. 11.2	123. 3.3	0.0	3.3	0.0	0.0	0.0	293. 4.0
Lake Absaraka ²	0.0	0.0	0.0	0.0	15. 2.6	0.0	3.	0.0	0.0	0.0	18. 2.6
Sloans Lake?	0.0	94.	0.0	1729. 9.0	13. 2.6	0.0	37. 2.6	0.0	0.0	0.0	1873. 7.2
Pathfinder Reservoir	17. 0.2	7.	0.0	29. 1.0	65. 0.3	16. 0.8	43. 0.3	11. 0.4	0.0	0.0	187. 0.3
Alcova Reservoir	30.	42.	0.0	172. 1.1	183.	138. 0.9	0.0	0.0	0.0	0.0	565. 0.5

TABLE D-1, CONTINUED INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PEAK YEAR (1987)

								Hiking/	Snowmobiling	_	
	ACTIVITIES						:	Horseback	Cross	asil van	TOTAL
	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating		COUNTRY	200	
Recreational Areas	Sill due					•	,				17.
Gray Reefs Reservoir	2.0	0.3	0.0 0.0 0.0		2. 0.4	6.0	0.3	0.0	0.0	0.0	0.4
	;		•		ć	c	22				35.
North Platte River	10.				.0.0	0.0	0.7				9.0
	:				,	,	;				381.
Oliver Reservoir	47.		0.0			.0.	1:1				1.5
	0.0		;			000	6100				105000.
TOTAL	16400. 0.2		3500. 0.1		13/00.	2.0	0.5				0.4

 First line of each entry indicates anticipated increase in activity days. Second line indicates percentage change over baseline.
 Indicates that recreational area is within Area of Concentrated Study. Note:

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Table 0-2

INCREASED RECREATIONAL PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING PROJECT SETTLEMENT YEAR (1991)

			!								
	Activities							Hiking/ Hors-back	Snowmobiling/ Cross		
Recreational Areas	Camping	Picnick ing	Skling	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Rocky Mountain National Park	308. 0.0	112. 0.1	16. 0.0	0.0.	0.0	0.0	0.0	497. 0.1	11. 0.1	0.0	944. 0.1
Medicine Bow National Forest (Pole Mountain Unit)2	628. 0.6	407. 0.8	0.0	0.0	779.	1120.	0.0	625.	291.	182. 3.6	4033.
Medicine Bow National Forest (Medicine Bow Unit) ²	280. 0.2	315. 0.2	20. 0.2	44. 1.1	3 63. 0.3	969. 0.9	80. 0.3	275. 0.3	492. 0.3	83. 1.0	2921. 0.4
Medicine Bow National Forest (Hayden Unit) ²	79. 0.1	101. 0.1	0.0	0.0	37. 0.2	66. 0.5	16. 0.2	23.	7. 0.2	48. 0.6	376. 0.2
Medicine Bow National Forest (Laramie Peak Unit) ²	37. 0.1	108. 0.1	 	0.0	0.5	0.5.	 	.53.	.58. 0.2	132. 0.6	546.
Thunder Basin National Grassland	3. 0.1	15. 0.1	0.0	23. 0.5	18. 0.1	87. 0.4	0.0	0.1	11. 0.1	26. 0.4	186. 0.2
Arapaho National Forest	110.	99.	135. 0.0	27. 0.1	0.0	0.0	15. 0.0	218. 0.0	114. 0.0	114. 0.1	832. 0.0
Roosevelt National Forest	560. 0.1	1050. 0.1	229. 0.1	218. 0.4	0.0	0.0	123. 0.1	1088. 0.1	269. 0.1	454. 0.4	3989. 0.1
Routt National Forest	67. 0.0	33.	0.0	5. 0.1	0.0	0.0	0.0	92.	.0.0	81. 0.1	359. 0.0
Pike National Forest	137. 0.0	165. 0.0	0.0	51. 0.1	0.0	0.0	8. 0.0	295. 0.0	12. 0.0	630. 0.1	1299. 0.0
White River National Forest	235. 0.0	104.	489.	40. 0.1	0.0.	0.0	55.	300.	115. 0.0	76. 0.1	1414. 0.0
Pawnee National Grassland	7.	39. 0.1	0.0	0.0	0.0	0.0	0.0	8. 0.2	0.0	3.	56. 0.1
Nebraska National Forest	1.	14. 0.0	0.0	0.0	0.0	0.0	0.0	3. 0.1	0.0	67. 0.2	86. 0.1
Oglala National Forest	2. 0.0	15. 0.0	0.0	0.0	0.0	0.0	0.0	3.	0.0	12. 0.2	31. 0.1
North Platte National Wildlife Refuge	0.0	0.1	0.0	2. 0.3	0.0	0.0	1. 0.1	0.1	0.0	0.0	4. 0.1

TABLE D-2, CONTINUED INCREASED PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING SETTLEMENT YEAR (1991)

	Activities							Hiking/ Horseback	Snowmobiling/		
Recreational Areas	Camping	Picnicking Skiing	Skiing	Swimming	Fishing	Hunting	Boating	- 1	Country	ORV Use	TOTAL
Bamforth National Wildlife Refuge ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5
Hutton Lake National Wildlife Refuge ²	0.0	0.0	0.0	.0.0	0.0	0.0	0.0	3. 0.5	0.0	0.0	3. 0.5
Crescent Lake National Wildlife Refuge	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Arapaho National Wildlife Refuge	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
BLM (Niobrara, Natrona, Converse, Goshen, Platte) ²	0.1	$\frac{2}{0.1}$	0.0	0.0	8. 0.1	565. 0.2	0.0.	0.1	0.1	0.3	586. 0.2
BLM (Laramie, Albany, Carbon) ²	335. 0.1	38. 0.1	0.0	5.	308. 0.2	429. 0.5	55. 0.2	19. 0.2	37. 0.2	323. 0.6	1548. 0.2
8LM (Eagle)	1.	0.0	0.0	0.0	0.0	0.0	2. 0.0		5. 0.0	4 .	11. 0.0
BLM (Routt, Moffat)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	1. 0.0	0.1	2. 0.0
BLM (Jackson)	0.0	0.0	0.0	0.0		0.0	0.0	.00	 0.0	10. 0.2	10. 0.2
BLM (Grand)	0.0	0.0	0.0	0.0	0.0	0.0	16. 0.0	0.0	0.0	0.0	17. 0.0
Curt Gowdy State	1123. 1.1	770. 1.6	0.0	0.0	1724. 2.0	0.0	361. 2.2	400.	0.0	176. 6.8	4556. 1.7
Glendo State Park ²	338. 0.1	151. 0.2	0.0	6.6 0.9	298. 0.3	0.0	285. 0.3	67. 0.3.	0.0	62. 0.9	1916. 0.3
Guernsey State Park ²	253. 0.2	150. 0.2	0.0	629. 1.0	37. 0.3	0.0	169. 0.3	73. 0.3	0.0	47. 0.9	1359. 0.3
Seminoe State Park2	18. 0.1	0.1	0.0	15. 0.5	14. 0.1	0.0	0.1	3.	0.0	3.	63. 0.1
Alsop Lake ²	0.0	0.0	0.0	0.0	19. 0.5	0.0	0.0	0.0	0.0	0.0	19. 0.5

TABLE D-2, CONTINUED INCREASED PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING SETTLEMENT YEAR (1991)

	Activities							Hiking/	Snowmobilin) b	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Gelatt Lake ²	0.3										14. 0.5
Grayrocks Reservoir ²	0.5										4.
Hawk Springs Reservoir ²	0.0										4.0
Johnson Lake ²	0.0										2.
Johnson Reservoir #3 ²	0.5										25. 0.5
Lake Hattie ²	21. 0.2									_	192. 0.5
Laramie Peak Wildlife Unit ²	0.1										8.
Laramie River ²	1. 0.2										13. 0.4
Leasenby Lake ²	0.0										8.0.4
Meeboer Lake ²	9.										55. 0.4
North Platte River (Glendo Power Plan Site) ²	0.1	0.0	0.0	0.0	0.3	0.7	0.0	0.0	. o.o.	0.0	5.
Packers Lake ²	0.5										1. 0.3
Rawhide Creek ²	0.0										4.
Rock Lake ²	0.0										3. 0.6
Springer Wildlife Unit2	11.										113. 0.6

TABLE D-2, CONTINUED INCREASED PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING SETILEMENT YEAR (1991)

	Activities							Hiking/ Horseback	Snowmobiling/ Cross	9/	
Recreational Areas	Carping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
	0.2	0.0	0.0	0.0	0.4	19. 1.0	0.0	0.0	0.0	0.0	21. 0.9
I⊌in Buttes Reservoir²	10. 0.3	0.0	0.0	27.	117. 0.5	.∵.	14. 0.5	0.0	0.0	0.0	167. 0.5
Wheatland Reservoir # 1^2	1. 0.3	1. 0.3	.00	0.0	2. 0.5	0.0	1. 0.5	0.0	0:0	0.0	6.
Wheatland Reservoir #3 ²	11.	0.0	0.0	0.0	38. 0.3	0.0	21. 0.3	0.0	0.0	0.0	70. 0.3
Pennock Mountain Wildlife Unit	0.0	0.0	0.0	0.0	0.0	3. 0.6	0.0	1.	0.0	0.0	4.0.4
Wick Brothers Big Game Unit	1.	0.	. O. O.	0.0	4.0.4	11.1	0.0	0.9 4.9	0.0	0.0	17. 0.7
Colorado State Forest	٦.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11. 0.0
Barbour Ponds State Recreation Area	8. 0.1	24. 0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	40.
Boyd Lake State Recreation Area	0.1	26. 0.2	0.0	0.0	0.0	0.0	42.	1.	0.0	0.0	81. 0.2
Barr Lake State Recreation Area	10. 0.0	14.	0.0	0.0	0.0	0.0	3.	23. 0.1	0.0	0.0	50. 0.1
Castlewood Canyon State Recreation Area	0.0	5.	0.0	0.0	0.0	0.0	0.0	15. 0.0	0.0	0.0	20. 0.0
Chatfield Reservoir State Recreation Area	0.0	68. 0.0	0:0	93. 0.1	0.0	0.0	16. 0.0	99.	0.0	0.0	282. 0.0
Cherry Creek State Recreation Area	0.0	.00 0.0	0.0	256. 0.2	0.0	0.0	41.	64. 0.1	0.0	0.0	452. 0.1

TABLE D-2, CONTINUED INCREASEURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING SETTLEMENT YEAR (1991)

	Activities							Hiking/	Snowmob 1 ling,	/6	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TO.AL
Jackson State Recreation Area	9.0	18. 0.0	0.0	27. 0.2	0.0	0.0	9.	0.1.	0.0	0.0	65. 0.1
Eldcrado Canyon State Park	٠. ن. 0	0.0 6.	0.0	5.	0.0	0.0	0.0	32. 0.1	0.0	0.0	44.
Golden Gate Canyon State Park	0.0	.63 0.0	0.0	0.0	0.0	0.0	0.0	43.	0.0	0.0	108. 0.0
Steamboat Lake State Park	0.0	2. 0.0	0.0	0.0		9.0	1. 0.0	0.0	0.0	0.0	9.0
Lory State Park	0.1	8. 0.1	٥٠٥.	4. 0.6	0.0	0.0	0.5	30. 0.2	0.0	0.0	43. 0.2
Lake Minatare State Recreation Area	75. 0.1	85. 0.1	0.0	235. 0.3	0.0	0.0	36. 0.1	0.1	3. 0.1	19. 0.3	459. 0.1
Chadron State Park	26. 0.0	0.0	0.0	82. 0.1	0.0	0.0	12. 0.0	2. 0.0	1. 0.0	6.	159. 0.1
Fori Robinson State Sark	51. 0.0	.88. 0.0	0.0	161. 0.2	0.0	0.0	24. 0.1	0.1	2. 0.1	13. 0.2	314. 0.1
Box Butte Reservoir State Recreation Area	0.0	10. 0.0	0.0	28. 0.2	9.0	0.0	4. 0.1	0.1.	0.0	2.0	54. 0.1
Bridgeport State Recreation Area	34. 0.0	38. 0.1	0.0	106. 0.3	0.0	0.0	16. 0.1	3.	1. 0.1	8. 0.2	207. 0.1
Lake McConaughy State Recreation Area	61. 0.0	.69 0.0	0.0	191. 0.2	0.0	0.0	29. 0.1	5.	2. 0.1	15. 0.2	372. 0.1
Wildcat Hills State Recreation Area/Wildlife Management Area	* *-	5. 0.1	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	12. 0.1
Ninc Mile Creek Wildlife Management Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Upper Korth Crow Reservoir ²	2 6. 0.6	8. 0.8	0.0	35. 3.9	40.	0.0	11.	0.0	0.0	0.0	99.
Lake Absaraka ²	0.0	0.0		0.0	5. 0.9	0.0	1.0	0.0	0.0	0.0	6.0

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TABLE D-2, CONTINUED INCREASED PRESSURE, IN ACTIVITY DAYS AND PERCENTAGES AT RESOURCE-BASED RECREATIONAL AREAS DURING SETTLEMENT YEAR (1991)

	Activities							Hiking/ Horseback	Snowmobiling Cross	_	
Recreational Areas	Camping	Picnicking	Skiing	Swimming	Fishing	Hunting	Boating	Riding	Country	ORV Use	TOTAL
Sloans Lake ²	0.0		0.0					0.0			658. 2.5
Pathfinder Reservoir	.0.0		0.0								54. 0.1
Alcova Reservoir	9. 0.1		0.0								163. 0.1
Gray Reefs Reservoir	0.1		0.0								5.
North Platte River	2. 0.1	0.1	0.0	0.0	0.0	0.0	5.		0.0	0.0	8.
Oliver Reservoir	15. 0.2	_	0.0								125. 0.5
TOTAL	5000.		900.								31800. 0.1

Note: 1. First line of each entry indicates anticipated increase in activity days. Second line indicates percentage change over baseline. 2. Indicates that recreational area is within Area of Concentrated Study.

APPENDIX E

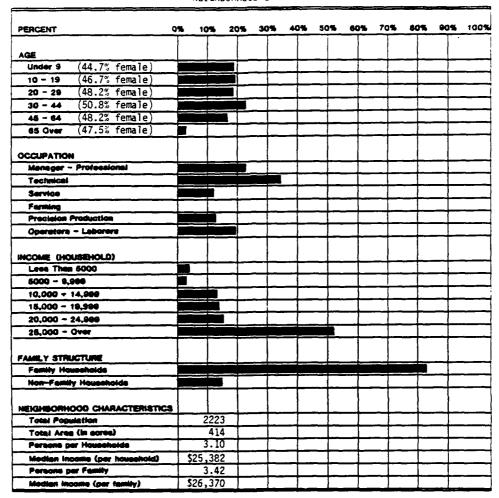
APPENDIX E

CITY OF CHEYENNE - NEIGHBORHOOD PARKLAND SURVEY/ANALYSIS

The parkland survey/analysis in this appendix was conducted on a neighborhood level. The analysis concerned itself with acres of parkland, parkland classification (community versus neighborhood), service radii, and the demographic profile of the existing neighborhood population (which utilized demographic information derived from the 1980 Census).

Thirty-three neighborhoods were included in the survey/analysis. Of the total, 5 neighborhoods were found to have excess parkland, 5 had sufficient parkland, and 23 were deficient. Of the 23 deficient neighborhoods, the City felt it would be possible to bring 6 up to the 5 acre per 1,000-people standard. This would require the acquisition of a minimum of 46 acres.

Figure E-1 (in pocket) depicts the service radii for both community and neighborhood parkland. Community parks are shown with a 1.5 mile service radius. Neighborhood parks are shown with a three-quarter mile radius with the exception of Old Town Mall Park which, due to its small size, is shown with a one-quarter mile radius. While viewing this figure it is important to consider physical access barriers which may reduce the service areas for specific parks. In terms of roadways, Pershing Boulevard, Nationway, Central Avenue, College Drive, and Interstate 180 are physical barriers to certain parks. The Union Pacific railyard and feeder tracks are also physical barriers.



BUFFALO RIDGE (#001)

Buffalo Ridge is located in the northwest portion of the Cheyenne Urban Area. It is approximately 414 acres in size, and housed 2,223 people in 1980.

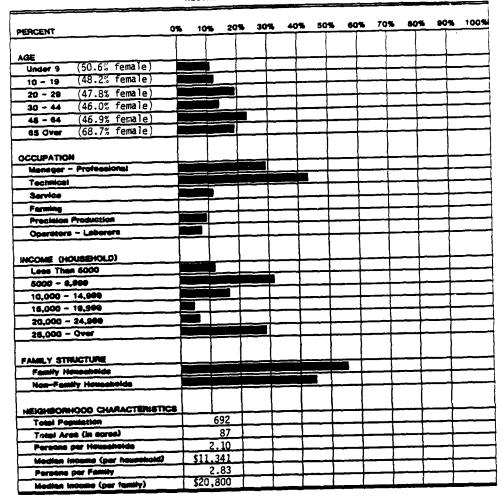
The neighborhood has a large population under 20 years of age (38.3 %). The remaining population consists mainly of individuals aged 20 to 44 years (41.7 %), with a smaller percentage (20.0 %) over 44 years of age.

The majority of those in the labor force $(56.6\ \%)$ hold professional or technical positions. This explains the relatively high income levels $(51.9\ \%$ of the labor force earning more than \$25,00°) in the neighborhood as a whole. The remainder of the labor force consists of operators-laborers $(19.1\ \%)$, and individuals employed in the precision production $(12.5\ \%)$ or service $(11.8\ \%)$ industries.

The neighborhood has a high percentage (83.3~%) of family households. There is a relatively even male/female distribution.

Buffalo Ridge has 23 acres of parkland on its southern boundary. This includes Cahill Park (8 acres) and the soccer complex (currently 15 acres, with plans for expansion). Using the City's standard, the neighborhood has a parkland surplus of 12 acres. The northern portion of the neighborhood, outside the service area of Cahill Park, is served by the open space surrounding Buffalo Ridge School. Additional open space will exist upon completion of Anderson School (west of the neighborhood). Both schools offer excellent potential for the development of joint venture (City/School District) recreation facilities.

NEIGHBORHOOD 2



CAPITAL NORTH (002)

Capital North is located in the west-central portion of the Cheyenne Urban Area. It is approximately 87 acres in size, and housed 692 people in 1980.

The neighborhood has a large population over 45 years of age (42.2~%). The remaining population consists mainly of individuals aged 20 to 44 (34.1~%) with a smaller percentage (23.7~%) under 20 years of age.

The majority of those in the labor force (73.2 %) hold professional or technical positions. The remainder of the labor force consists of individuals in the service (11.2 %), or precision production (9.7 %) industries and operators-laborers (5.9 %). The uneven income distribution is the result of a large percentage of high income professionals and an equally large percentage of elderly people living on fixed incomes.

The neighborhood has a relatively even split between family households (55.6 %) and nonfamily households (44.4 %).

Capital North as a neighborhood is undersupplied with parkland. Using the City's standard it is deficient by 3.5 acres. However, it is within, or close to, the service radius of three neighborhood parks. Churchill and Miller School (adjoined by Evans fields) provide additional open space in close proximity to the neighborhood. The City acknowledges that this is one of the older neighborhoods which will never be brought up to their standard (5 acres/1,000 population in deficient neighborhoods).

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20 - 29	(40.8% female)						\perp		l						
30 - 44	(41.8% female)														
46 - 64	(54.9% female)						\Box								
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Persons pr			.62	_											
	ome (per femily)	\$14,			_	_	_		_	-					

CENTRAL (003)

Central is located in the west-central portion of the Cheyenne Urban Area, just north of the Union Pacific rail yards. It is approximately 360 acres in size, and housed 2,273 people in 1980.

The neighborhood has a small percentage of the population under 20 years of age (18.2~%). The remainder consists of two equally large groups, the 20 to 44 age group (40.6~%) and the over-44 age group (41.3~%).

The majority of the labor force holds professional or technical positions (59.5 %). The remainder of the labor force consists of operators-laborers (12.8 %), and individuals employed in the precision production (11.2 %), service (4.8 %) and farming (0.4 %) industries.

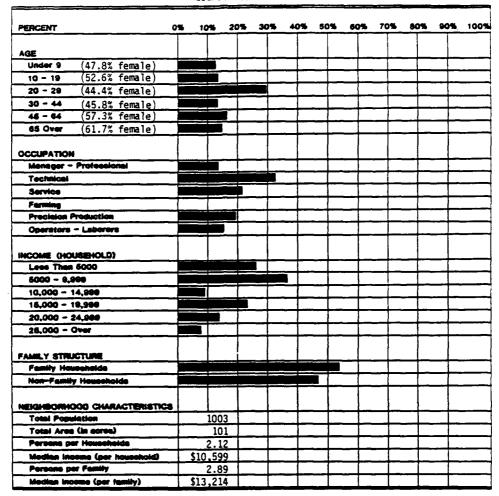
This neighborhood has a large percentage of low-income households (59.5 % earning under \$10,000 per year). A large number of elderly persons (23.4 % of the total population) account for a portion of this, the remainder can be attributed to young individuals entering the labor market in low-level positions.

This neighborhood is in a transition stage, with much of its housing being converted to office or retail space. This accounts for the low percentage (32.0~%) of family households.

The neighborhood is served by Sunset Park (6 acres) and Old Town Mall (0.5 acres). Using the City's standard, the neighborhood is deficient by 4.9 acres of parkland. The northern portion of the neighborhood, outside the service radii of Sunset and Old Town Mall Park, is served by Brimmer and Pioneer parks. The area surrounding the capital complex also provides additional open space for the neighborhood. Even though a deficiency exists, the City realizes that it would be difficult to provide additional parkland in this neighborhood and has no plans for acquisition or development.

E-4

NEIGHBORHOOD 4



CHURCHILL (004)

Churchill is located in the far west-central portion of the Cheyenne Urban Area. It is approximately 101 acres in size, and housed 1,003 people in 1980.

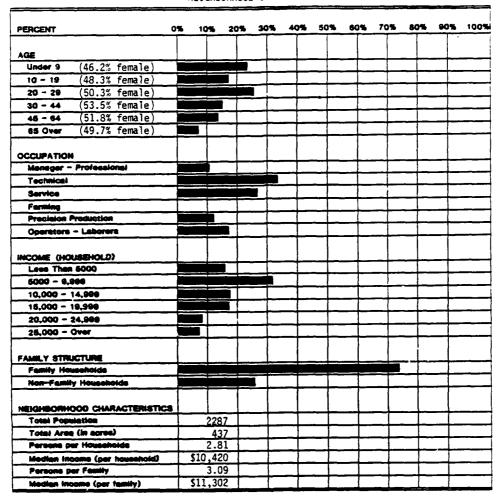
The neighborhood has a relatively small population under 20 years of age (25.3%). The 20 to 44 age group accounts for a large portion (42.7%) of the total population, with the over-44 group making up the remainder (32.0%).

The majority of the labor force hold professional or technical positions (45.4 %). The remainder consists of individuals employed in the service (20.9) or precision production industries (19.3 %) and operators-laborers (14.4). The neighborhood includes a large number of persons in the 20 to 29-year old age group (29.6 %) who are just entering the labor market, and large numbers of elderly. These two factors are the major reason household incomes are low (63.5 % of the labor force earning less than \$10,000).

The neighborhood has a relatively even split between family households (53.0 %) and nonfamily households (47.0 %).

Churchill does not contain either a neighborhood or community park. Using the City's standard, the neighborhood parkland deficiency is 5.0 acres. However, portions of the neighborhood are within the service areas of Pioneer and Jaycee parks. Access to both parks is good, with no major barriers. The City feels that this is one of the deficient neighborhoods that will never be served adequately. There are no plans for acquisition or develoment of parkland in this neighborhood.

NEIGHBORHOOD 5



COLE SCHOOL (005)

Cole School is located in the west-central portion of the Cheyenne Urban Area, just south of the Union Pacific rail yards. The neighborhood is approximately 437 acres in size, and housed 2,287 people in 1980.

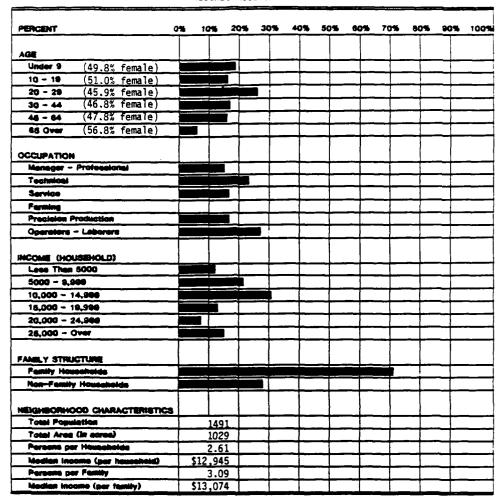
The neighborhood has a large percentage of its population under 20 years of age (39.7~%), and an equally large percentage (40.1~%) in the 20 to 44 age group. The remainder (20.2~%) consists of individuals over 44 years of age. The neighborhood's elderly population comprises only a small percentage (6.9~%) of the total population.

The majority of the labor force (59.9~%) is employed in either technical or service positions. Operators-laborers and individuals employed in the precision production industry account for most of the remainder (29.5~%). Only a small percentage (10.4~%) of the total population hold professional or managerial positions, which explains the low household incomes.

The neighborhood has a high percentage (73.8 %) of family households. There is a relatively even male/female distribution.

Cole School is served by two neighborhood parks, Timberland and Optimist Park, both of which are 2 acres in size. Portions of the neighborhood are within the service radii of Civitan and Lincoln parks. Using the City's standard, the neighborhood parkland deficiency is 7.4 acres. Cole School has good spatial access to its parks, but needs additional acreage. The Crow Creek corridor offers excellent possibilities for developing additional parkland.

NEIGHBORHOOD 6



COMMUNITY COLLEGE (006)

Community College is located in the southeast portion of the Cheyenne Urban Area. It is approximately 1,029 acres in size, and housed 1,491 people in 1980.

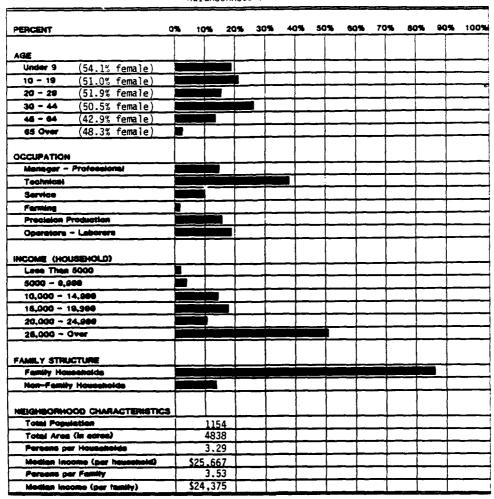
Approximately one-third (34.8 %) of the neighborhood's population is under 20 years of age. The remaining population consists mainly of individuals from the aged of 20 to 44 (43.4 %), with a smaller percentage (21.8 %) over 44 years of age.

The majority of the labor force (45.6 %) are employed as laborers-operators or in the precision production industry. This explains the relatively low income levels (63.2 % of the labor force earning less than \$15,000) in the neighborhood as a whole. The remainder of the labor force consists of individuals holding professional-technical positions (36.8 %) or individuals employed in the service industry (17.6 %).

The neighborhood has a high percentage (71.2 %) of family households. There is a relatively even male/female distribution.

Community College is not served by the City's neighborhood or community parks. Using the City's standard, the neighborhood is deficient by 7.5 acres of parkland. The possibilities for providing parkland in this portion of the urban area are numerous. They include the possibility of joint venture development between the City and Laramie Community College, School District No. 1 or Laramie County. The gravel pits located north and south of Fox Farm Road offer excellent potential for recreation development once reclaimed. The City currently owns one gravel pit located just north of Fox Farm Road.

NEIGHBORHOOD 7



CRESTMOOR (007)

Crestmoor is located in the northeast portion of the Cheyene Urban Area. It is approximately 4,800 acres in size, and housed 1,154 people in 1980. This neighborhood has seen rapid growth in the last 5 years, the majority of the development consisting of single-family homes located on large lots.

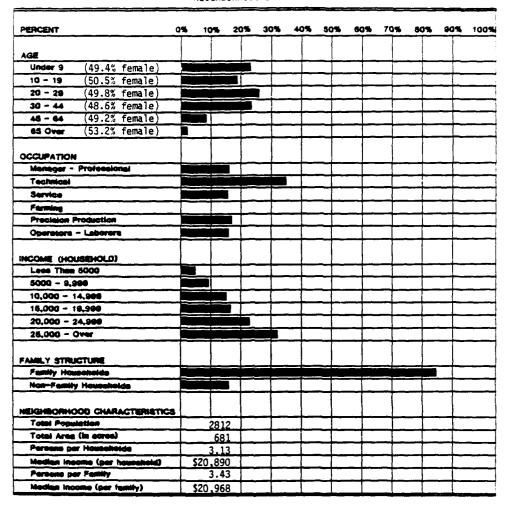
The neighborhood has a large population under 20 years of age (40.5 %). The remaining population consists mainly of individuals from the ages of 20 to 44 (43.7 %), with a small percentage (15.8 %) over 44 years of age.

Over 52 percent of the labor force hold professional or technical positions, which explains the high income levels (52.2 % of the labor force earn at least \$25,000) in the neighborhood as a whole. Of the remaining population, the majority (36 % of the total) are employed as operators—laborers or in the precision production industry. Those employed in the service and farming industries account for the remaining 11.7 percent.

The neighborhood has a very high percentage (86.9~%) of family households. There is a relatively even male/female distribution.

Crestmoor is not served by the City's neighborhood or community parks. Using the City's standard, the neighborhood is deficient by 5.8 acres of parkland. Because the neighborhood has a rural setting, and most home sites include a fair amount of open space, the City does not see the need for acquisition or development of parkland in the near future.

NEIGHBORHOOD 8



DILDINE (008)

Dildine is located in the northeast portion of the Cheyenne Urban Area. It is approximately 680 acres in size, and housed 2,812 people in 1980.

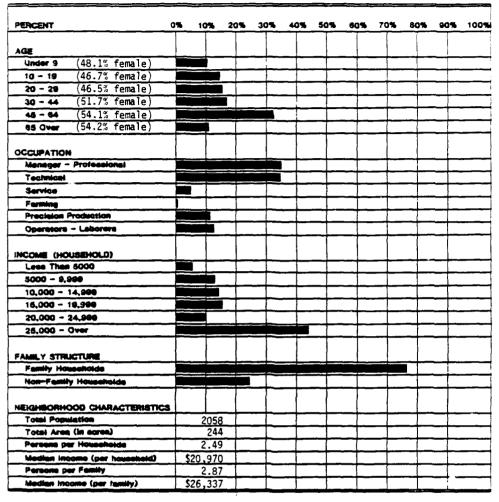
The neighborhood has a very large population under 20 years of age $(41.5\ \%)$. The remainder of the population consists mainly of individuals from the ages of 20 to 44 $(48.3\ \%)$, with a small percentage $(10.2\ \%)$ over 44 years of age.

The majority of the labor force hold professional or technical positions (51.4 %). The remainder of the labor force consists of operators-laborers (15.9 %), and individuals employed in the precision production (17.3 %) or service (15.4 %) industries.

The neighborhood has a very high percentage (84.5%) of family households. There is a relatively even male/female distribution.

There are no developed neighborhood or community parks in the Dildine neighborhood proper. Using the City's standard, this neighborhood is deficient by 14.1 acres of parkland. However, the western portion of the neighborhood is within the service radii of Cahill Park - soccer complex (23 acres total) and Brimmer Community Park. A 2 acre parcel has recently been dedicated for parkland in the Sunnyside Subdivision. The size of this park is expected to reach 30 acres at buildout. In addition, the Sun Valley Community Park, located in the eastern portion of Grandview, is in the planning stages (10 acres have been dedicated, 30 additional acres remain under negotiation). The eastern portion of Dildine (not currently served by a community park) will fall within its service radius. Sunnyside Park will provide the additional acreage needed to bring the neighborhood up to the City's standard. Access to parkland and facilities will be improved by the addition of both Sunnyside and Sun Valley Parks.

NEIGHBORHOOD 9



EASTRIDGE (009)

Eastridge is located in the central portion of the Cheyenne Urban Area, just south of the Cheyenne Airport. It is approximately 244 acres in size, and housed 2,058 people in 1980.

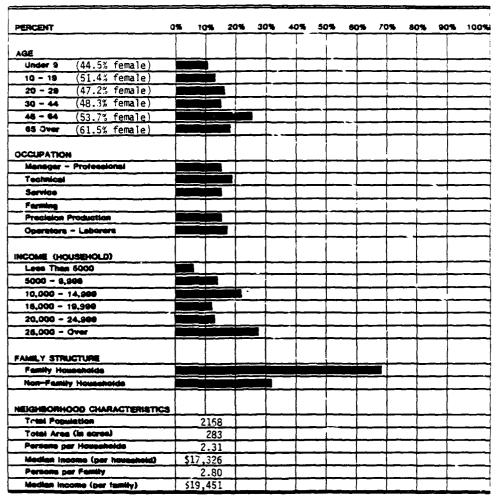
The neighborhood has a large population over 44 years of age $(42.5\ \%)$. The remainder consists of those individuals in the 20 to 44 age group $(32.6\ \%)$, and individuals under 20 years of age $(24.9\ \%)$.

The majority of the population (70.7 %) hold professional or technical positions, which accounts for the relatively high incomes (42.9 % of labor force earning \$25,000 or more). The remainder consists of operators-laborers (12.8 %) and those individuals employed in the precision production (11.3 %), service (4.8 %) or farming (0.4 %) industries.

The neighborhood has a high percentage (76.7 %) of family households. There is a relatively even male/female distribution.

Eastridge does not contain a neighborhood or community park. Using the City's standard, the neighborhood deficiency is 10.3 acres. The neighborhood is currently served by Corby Junior High School (which contains developed athletic facilities), and the Junior League Fields. The City has plans to upgrade the Junior League Fields to a neighborhood park, which would provide adequate parkland acreage and access for the neighborhood.

NEIGHBORHOOD 10



FAIRVIEW SCHOOL (010)

Fairview School is located in the central portion of the Cheyenne Urban Area. It is approximately 283 acres in size, and housed 2,168 people in 1980.

The neighborhood has a large population over 44 years of age (43.1 %). The remainder of the population consists mainly of individuals from the age of 30 to 44 (33.2 %), with a smaller percentage (23.7 %) under 20 years of age.

The majority of population hold professional or technical positions (55.0%). Another large group, operators-laborers and precision production employees, accounts for 31.6 percent of the total. The remainder consists of those individuals employed in the service industry (13.4%).

The neighborhood has a high percentage $(67.7\ \%)$ of family households. There is a relatively even male/female distribution.

Fairview School does not contain any neighborhood or community parks. Using the City's standard, the neighborhood parkland deficiency is 10.8 acres. Only the far west portion of the neighborhood is within the service radius of Holiday Park. Although a deficiency exists, the City does not feel that there is enough potential parkland to alleviate the situation. It is possible that a 1-acre triangle could be developed as a mini-park.

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FOX FARM (011)

Fox Farm is located in the southeast portion of the Cheyenne Urban Area. It is approximately 669 acres in size, and housed 1,410 people in 1980.

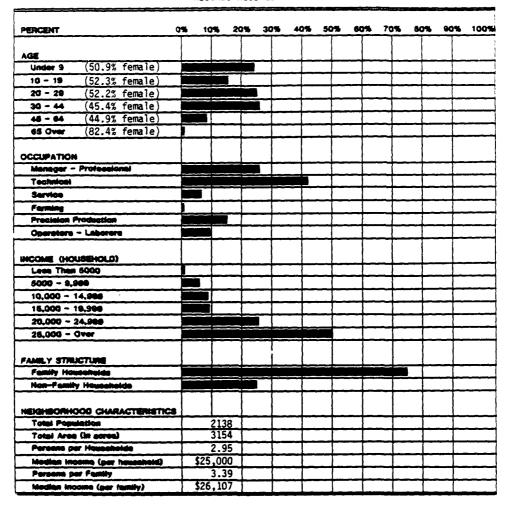
The neighborhood has a large population under 20 years of age (31.8 %). The remaining population consists of a large group from 20 to 44 years of age (43.4 %) of the total), and a smaller percentage (24.8 %) over 44 years of age.

The labor force consists of two equally large groups. Professional or technical positions account for 43.1 percent of the labor force, while operators-laborers or precision production employees account for 41 percent of the total. The remainder consists of those individuals employed in the service (14.9 %) or farming (1.0 %) industries. This split explains the medium income levels (with 67.3 % of the population earning between \$5,000 and \$19,999).

There is a high percentage of family households (67.9 %). Male/female distribution is relatively even.

The neighborhood does not contain a neighborhood or community park. Using the City's standard, the neighborhood parkland deficiency is 7-1 acres. The development of a neighborhood park, which would serve both Fox Farm and the northern portion of Community College is a possibility. It could be located either at the gravel pits (as discussed earlier) or close to the Arp School site.

NEIGHBORHOOD 12



FRONTIER MALL (012)

Frontier Mall is located in the north-central portion of the Cheyenne Urban Area. It is approximately 3,150 acres in size, and housed 2,138 people in 1980.

The neighborhood has a large population under 20 years of age (38.9~%), and a large population (51.7~%) from the ages of 20 to 44. Only a very small percentage (9.4~%) of the total population are over 44 years of age.

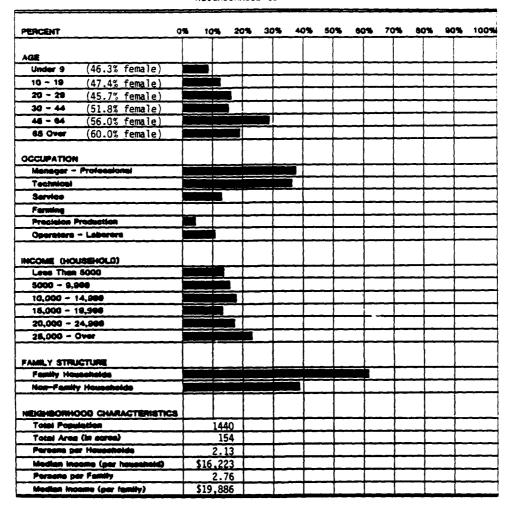
The majority of the labor force holds professional or technical positions (68.6%). This explains the high levels of income (50.0% of the labor force earning \$25,000 or more) in the neighborhood as a whole. The remainder of the labor force consists of individuals involved in precision production (14.8%), laborers-operators (9.9%), and persons employed in the service (6.0%) or farming industries (0.7%).

The neighborhood has a high percentage (75.4 %) of family households.

Frontier Mall does not have a neighborhood or community park. Using the City's standards, the neighborhood parkland deficiency of 10.7 acres. Because the neighborhood is mostly rural and consists of homes on large sites, the City does not foresee large-scale park development in the near future. It is likely that a joint venture (City/School District) facility located at Anderson School would adequately serve the neighborhood.

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NEIGHBORHOOD 13



FRONTIER PARK (013)

Frontier Park is located in the west-central portion of the Cheyenne Urban Area. It is approximately 154 acres in size, and housed 1,440 people in 1980.

The neighborhood has a high percentage of the population over 44 years of age $(47.7\ \%)$. The remaining population consists of those individuals 20 to 44 years of age $(31.1\ \%)$, and a smaller percentage of the population under 20 years of age $(21.2\ \%)$.

The majority of the labor force holds professional or technical positions (73.4 %). The remainder consists of those individuals employed in the service industry (12.3 %), operators—laborers (10.5 %), and those involved in precision production (3.8 %). Because a large portion of the population is elderly and lives on fixed incomes, the income levels are lower than would be expected for this type of occupation breakdown (59.2 % of the labor force earns less than \$20,000).

The majority of the households (61.2 %) are family households. There is a fairly even male/female distribution.

Frontier Park is served by Jaycee Neighborhood Park (2 acres in size), and is within the service radii of Lions and Pioneer Community parks. Using the City's standard, the neighborhood is deficient by 5.2 acres of parkland. Because the neighborhood is served by Jaycee, Lions, and Pioneer parks, the City does not have plans for any additional parkland development or acquisition.

NEIGHBORHOOD 14

PERCENT		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100
AGE			4-									
Under 9	(42.9% female)											
10 - 19	(44.5% female)											
20 - 29	(50.7% female)											
30 - 44	(53.1% female)											
45 ~ 64	(56.9% female)											
65 Over	(62.5% female)		+		-							
OCCUPATION	1						-		- 1			
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Persons pe												

GARDEN HOMES (014)

Garden Homes is located in the east-central portion of the Cheyenne Urban Area. It is approximately 136 acres in size, and housed 1,273 people in 1980.

The neighborhood has a large percentage of individuals in both the over-44 age group (44.2 %) and in the 20 to 44 age group (35.5 %). A small percentage of the population (20.3 %) is under 20 years of age.

The majority of the population holds professional or technical positions $(61.2\ \%)$. Of the remainder, a portion consists of equal percentages (13.1%) of individuals involved in precision production and operators—laborers. The service and farming industries account for 9.9 and 2.6 percent of the labor force, respectively.

The majority of the households are family households. Male/female distribution is relatively even.

Garden Home does not have a neighborhood or community park. It is, however, within the service radius of Brimmer Community Park. Using the City's standard, the neighborhood parkland deficiency is 6.4 acres. Although the neighborhood is served by only Brimmer Park (which lacks development potential), the City does not see a means by which adequate parkland can be provided. No parkland development or acquisition is planned in this neighborhood.

PERCENT	7%	10%	20%	30%	4	0%	50%	_6	3%	70%	80%	90%	1001
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AGE	1					<u> </u>							
Under 9 (51.1% female)									<u> </u>				
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20 - 29 (56.5% female)						}				_1_			
30 - 44 (50.7% female)													
48 - 64 (48.5% female)						Γ							
65 Over (47.4% female)		4				F				-			
OCCUPATION		.											
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Farming		$oldsymbol{\mathbb{L}}$											
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HEIGHBORHOOD CHARACTERISTICS	1	1	- 1	1		1	- 1		{		- 1	1	
Total Population	_	206	6	_		1	_		 		_		
Total Area (In agree)	+	30	_			1	_		_	+-	\dashv		
Persons per Households	+	3.4		-+		1	+		_	_	_	_	
Median income (per household)	\$2	22,28				1	-+-		\vdash	\dashv	_		
Persons per Femily	 *	3.6		-+		1	-		 	_	_		
	1	22,28											

GOINS SCHOOL (015)

Goins School is located in the southwestern portion of the Cheyenne Urban Area. It is approximately 306 acres in size, and housed 2,066 people in 1980.

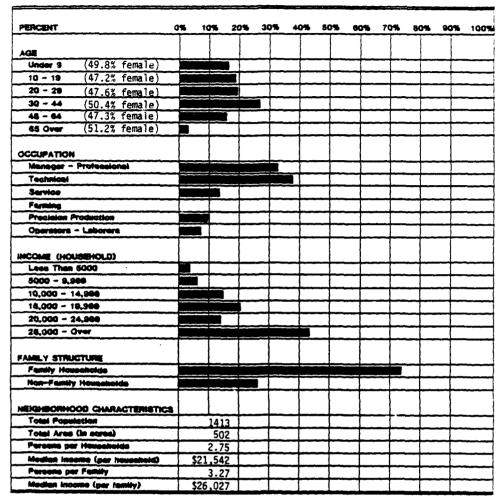
The neighborhood has a very large percentage of the population under 20 years of age $(43.7\ \%)$. The remaining population consists mainly of individuals 20 to 44 years of age $(40.8\ \%)$, with a small percentage $(15.5\ \%)$ over 44 years of age.

The largest segment of the labor force hold professional or technical positions (47.7 %), which explains the relatively high income levels (42.3 % of the labor force earning over \$25,000). Two other large groups are operators-laborers (22.7 %) and those individuals employed in the service industry (20.0 %). The remainder consists of those individuals involved in precision production (9.1 %) and farming (0.5 %).

The neighborhood has a very high percentage of family households (90.4 %), and a relatively high percentage of females in child-bearing years (56.5 %).

Goins School is served by Civitan Neighborhood Park (2 acres). Using the City's standard, the neighborhood's parkland deficiency is 8.3 acres. The City believes that the most efficient and realistic manner to provide parkland in this area is a joint venture with the School District at Johnson Junior High, or the development land adjoining the school.

NEIGHBORHOOD 16



GRANDVIEW (016)

Grandview is located in the far eastern portion of the Cheyenne Urban Area. It is approximately 502 acres in size and housed 1,413 people in 1980.

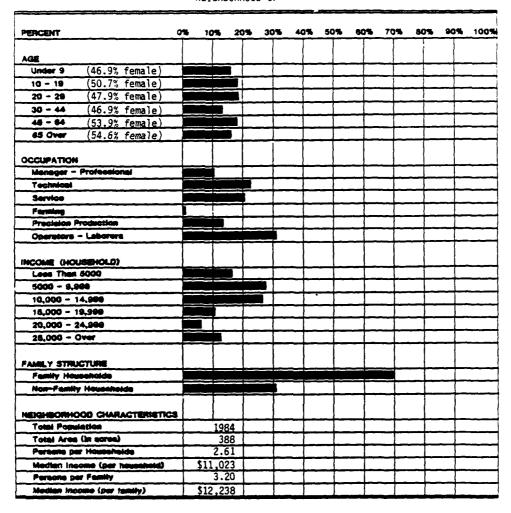
The neighborhood has a relatively high percentage of the population under 20 years of age (35.3 %). The remaining population consists of a large group 20 to 44 years of age (46.0 % of the total), and a smaller group over 44 years of age (18.7 %).

An extremely high percentage of the population hold professional or technical positions (69.9 %), which explains the high income levels (43.8 % of the labor force earning at least \$25,000 in the neighborhood as a whole). The remainder of labor force consists of individuals employed in the service (13.1 %) or precision production (9.7 %) industries and operators—laborers (7.3%).

There are a high percentage of family households (73.7 %). There is a relatively even male/female distribution.

At present, the neighborhood does not include any neighborhood or community parks. However, a portion of the neighborhood falls within the service radius of United Nations Neighborhood Park. Using the City's standard, the neighborhood parkland deficiency is 7.1 acres. The development of Sunnyside Neighborhood Park (2 acres dedicated, 30 acres at buildout) and Sun Valley Community Park (10 acres dedicated, 30 additional acres under negotiations) will more than satisfy the neighborhood's needs. Upon completion of these two parks, the neighborhood will have a parkland surplus of 62 acres. In addition Sun Valley Community Park will serve the whole western portion of the City (as a community park).

NEIGHBORHOOD 17



HEBARD SCHOOL (017)

Hebard School is located in south-central Cheyenne, just south of the Union Pacific rail yards. It is approximately 388 acres in size, and housed 1,984 people in 1980.

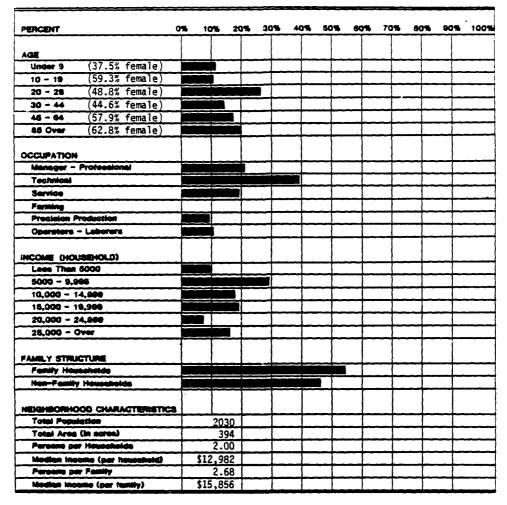
The population consists of three roughly equal age groups; those individuals under 20 years of age (34.5 %), the 20 to 44 age group (32.0 %), and those individuals over 44 years of age (33.5 %).

The majority of labor force are operators-laborers (31.1 %). Of the remaining population, 22.9 percent hold technical positions, 21.0 percent are employed in the service industry, and 13.2 percent are involved in precision production. Because only 10.9 percent of the population hold professional positions, there are low levels of income (70.3 % of the population earning under \$20,000).

The neighborhood has a high percentage of family households (69.8 %). There is a relatively even male/female distribution.

Hebard School is served by Lincoln Neighborhood Park (2 acres in size), and is within the service radius of Holiday Community Park. Using the City's standard, the neighborhood parkland deficiency is 7.9 acres. The Crow Creek corridor offers opportunities for recreation development, but commercial development along its banks places limits on these possibilities. It is quite likely that this neighborhood will never be served adequately.

NEIGHBORHOOD 18



HOLIDAY PARK (018)

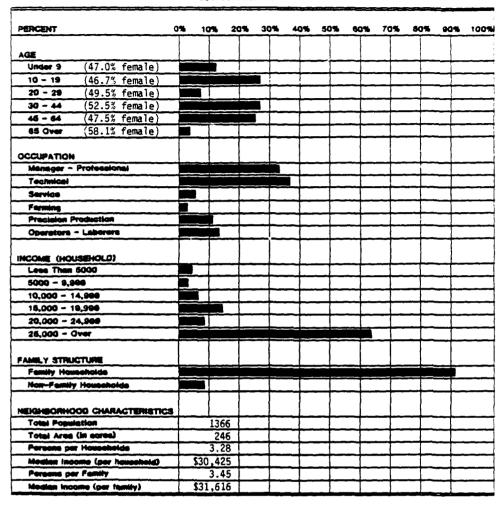
Holiday Park is located in the central portion of the Cheyenne Urban Area. It is approximately 394 acres in size, and housed 2,030 people in 1980.

The neighborhood has a large population over 44 years of age (37.9~%), and a large group from 20 to 44 years of age (41.2~%). Only a small percentage of the total population (20.9~%) are under 20 years of age.

The majority of the labor force hold professional or technical positions (60.8 m), but this is not reflected in the income breakdown (56.7 m) of the labor force earns less than \$15,000). The remainder consists of those individuals in the service (19.5 m) or precision production (9.1 m) industries and operators-laborers (10.6 m).

The neighborhood has a relatively even division between family households (54.0 s), and nonfamily households (46 s).

The Holiday Park neighborhood is served by Holiday Community Park which is 39 acres in size. This park provides more than adequate acreage for the neighborhood. Using the City's standard, the neighborhood parkland surplus is 28.9 acres. Holiday Park which has been recently redesigned also serves as a community park for this and surrounding neighborhoods.



INDIAN HILLS (019)

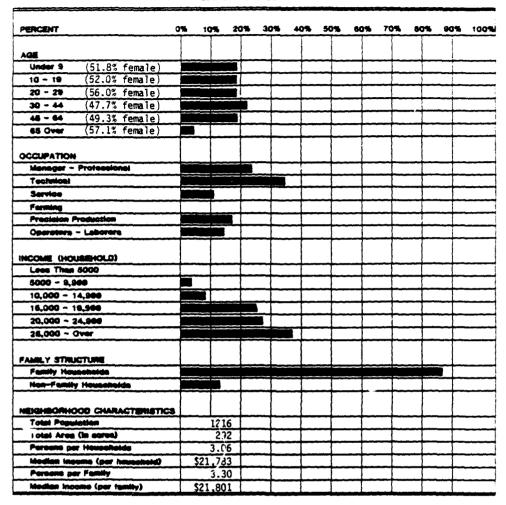
Indian Hills is located in the northwestern portion of the Cheyenne Urban Area. It is approximately 246 acres in size, and housed 1,366 people in 1980.

The neighborhood has a high percentage of individuals under 20 years of age (37.8~%). The remaining population consists of those individuals in the 20 to 44 age group (34.2~%), and individuals over 44 years of age (28.0~%).

A very high percentage of the labor force hold professional or technical positions (69.8 %), which explains the high income levels (over 63 % of the labor force earns more than \$23,000) in the neighborhood as a whole. The remainder consists of operators-laborers (11.8 %), and those individuals involved in the precision production (10.3 %), service (5.0 %), and farming (3.1 %) industries.

The neighborhood has an extremely high percentage of family households (91.6 s). There is a relatively even male/female distribution.

Indian Hills is served by two neighborhood parks. Mylar Park is 23 acres in size and located just south of Indian Hills. Smalley Park is 4 acres in size and located just west of Indian Hills. These parks serve both Indian Hills and Yellowstone. Using the City's standard, the neighborhood would require 6.8 acres of neighborhood parkland. If half the acreage of Mylar and Smalley (because they serve two neighborhoods) is credited to Indian Hills, the neighborhood has a surplus of 6.7 acres.



LEBHART SCHOOL (020)

Lebhart School is located in the western portion of the Cheyenne Urban Area, just north of the Union Pacific tracks. It is approximately 292 acres in size, and housed 1,216 people in 1980.

The neighborhood has a large population under 20 years of age $(36.4\ \%)$. The remaining population includes a large group of individuals from 20 to 44 years of age $(40.1\ \%)$, and a smaller group $(23.5\ \%)$ over 44 years of age.

The majority of the labor force is employed in professional or technical positions (58.4%), which explains the relatively high income levels (64.7% of labor force earns over \$20,000) in the neighborhood as a whole. The remainder of the labor force consists of those involved in precision production (16.7%), operators—laborers (14.1%), and individuals employed in the service industry (10.8%).

The neighborhood has a high percentage of family households (86.9 %). There is a high percentage (56.0 %) of females in child-bearing years.

Lebhart School does not contain a neighborhood or community park. Using the City's standard the neighborhood parkland deficiency is 6.1 acres. The City acknowledges that it is unable to accommodate the demand for parkland in this neighborhood. One possible solution would be to develop a neighborhood park to serve both the Lebhart School and Sum Valley neighborhoods in the southern portion of Sun Valley, north of the Union Pacific tracks. The park would be located in a drainage (detention) area, east of North College Drive. Before establishing a neighborhood park in this location, the question of liability and access would have to be adequately addressed.

PERCENT	0%	10%	20%	30%	40%	50%	60%	70%	50%	90%	1001
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30 - 44 (48.5% female)	-			↓-							
46 - 64 (41.5% female)	-		_								
65 Over (57.5% female)	#										
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NEIGHBORHOOD CHARACTERISTICS Total Population	' +	120				-+-		-+-	-+-		
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Median income (per family)		\$19,68	11	1	ı	i	1	}	1	}	

LOGAN (021)

Logan is located in the central portion of the Cheyenne Urban Area. It is approximately 131 acres in size, and housed 1,306 people in 1980.

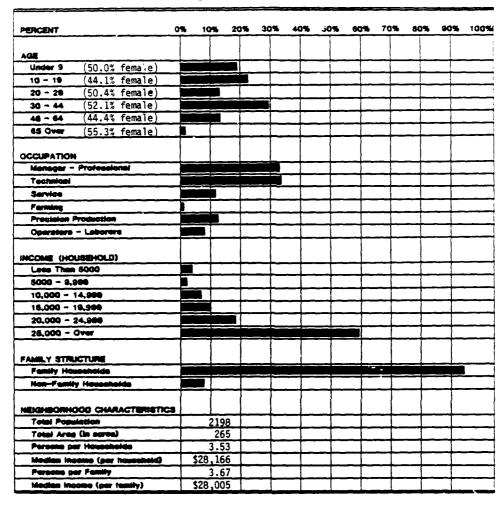
The neighborhood has a large population over 44 years of age $(40.1\ \%)$. The remaining population includes a large group of people from the ages of 20 to 44 $(37.2\ \%)$, and a small group under 20 years of age $(22.7\ \%)$. The neighborhood has a high elderly population, with 18.7 % of the total population over 63 years of age.

The majority of the labor force hold professional or technical positions (60.1~%), which is not reflected in the income breakdown. This is due to the large number of elderly people living on fixed incomes, and young adults entering the labor market for the first time. The remainder of the labor force consists of individuals employed in the service (16.9~%) or precision production (13.0~%) industries, and operators-laborers (10.0~%).

There are slightly more family households (59.7 %), than nonfamily households $(40.3\ \%)$.

Although Logan does not have a neighborhood or community park within its boundaries, it is within the service radii of Holiday and Brimmer parks. Using the City's standard, the neighborhood parkland deficiency is 6.5 acres. Because of its location (within the service radii of two parks) and the lack of developable land in this neighborhood, this demand will never be satisfied. The City has no plans for acquisition or development of parkland in this area.

NEIGHBORHOOD 22



MONTEREY HEIGHTS (022)

Monterey Heights is located in the northwestern portion of the Cheyenne Urban Area. It is approximately 265 acres in size, and housed 2,198 people in 1980.

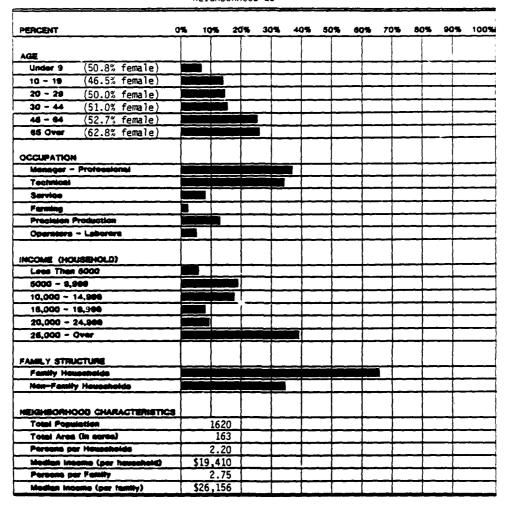
The neighborhood has a large population under 20 years of age (42.2 %). The remaining population consists mainly of individuals aged of 20 to 44 (42.5 %), and a small percentage (15.3 %) over 44 years of age.

The majority of the labor force hold professional or technical positions (67.7 %), which explains the high income levels (59.8 % of the labor force earns at least \$25,000) in the neighborhood as a whole. The remainder consists mainly of two equal groups employed in the service and precision production industries (11.5 % each). Operators—laborers accounted for 8.1 percent of the total and farming 1.3 percenc.

The neighborhood has a high percentage of family households (92.8 %). There is an even male/female distribution.

Monterey Heights does not have a neighborhood or community park within its boundaries. Using the City's standard, the neighborhood parkland deficiency is 10.9 acres. Because there is no developable land available for parkland in the neighborhood, the City would like to acquire land east and west of the neighborhood in North Ranchettes. Eight acres has already been dedicated as a county park in this neighborhood.

NEIGHBORHOOD 23



MOORE HAVEN (023)

Moore Haven is located in the west-central portion of the Cheyenne Urban Area. It is approximately 163 acres in size, and housed 1,620 people in 1980.

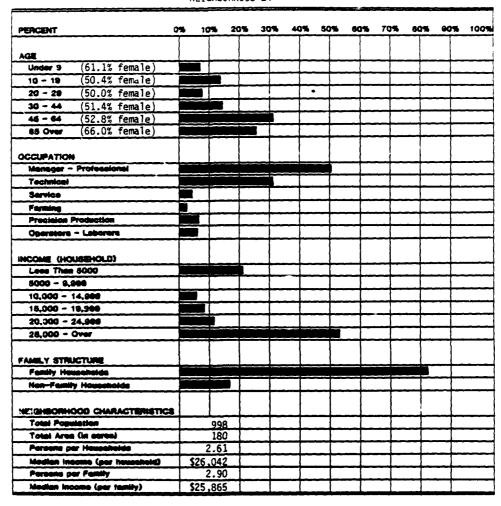
The neighborhood has a very large population over 44 years of age (50.1 %). The remaining population consists of those individuals from 20 to 44 years of age (29.3 %) and a smaller group under 20 years of age (20.4 %).

The majority of the labor force hold professional or technical positions (71.0 s), which explains the relatively high incomes (39.1 s) of the labor force earning of \$25,000). The remainder of labor force consists of individuals employed in the precision production (13.3 s) or service (8.0 s) industries, operators-laborers (5.4 s), and farmers (2.3 s).

The neighborhood has a high percentage of family households (66.5 %). There is an even male/female distribution.

Moore Haven, although it contains no neighborhood or community parks, is within the service redii of both Lions and Jaycee parks. In addition, Evans Field is located just east of the neighborhood. If the City's standard were applied, the resulting deficiency would be 8.1 acres. But, the City feels this neighborhood is adequately served, and has no plans for acquisition or development of parkland.

NEIGHBORHOOD 24



MOUNTVIEW (024)

Mountview is located in the west-central portion of the Cheyenne Urban Area. It is approximately 180 acres in size, and housed 998 people in 1980.

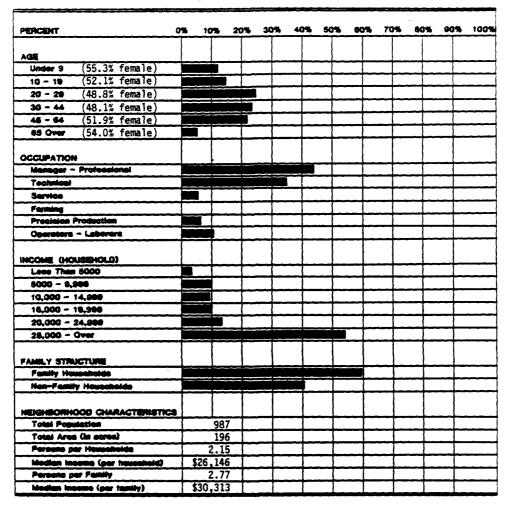
The neighborhood has a large population over 44 years of age (57.2 %). The remaining population consists of two equal groups, the 20 to 44 age group (21.8 %) and those individuals under 20 years of age (21.0 %).

The majority of the labor force hold professional or technical positions (80.9 %), which is reflected in the higher income levels (52.4 % of the labor force earns over 25,000). The remainder consists of operators-laborers (6.4 %), and individuals employed in the precision production (6.6 %), service (3.9 %), or farming (2.2 %) industries.

The neighborhood has a high percentage of family households (82.7%). Male/female distribution is even.

Mountview does not contain a neighborhood or community park, but is within the radius of Brimmer Community Park. Additional open space is provided at Henderson School, which is located at the western edge of the neighborhood. Using the City's standard, the neighborhood parkland deficiency is 5.0 acres. Because the majority of the neighborhood is within the service area of Brimmer Park, and very little developable land is available, the City has no plans for parkland acquisition or development.

NEIGHBORHOOD 25



NORTH CHEYENNE (025)

North Cheyenne is located in the northwest portion of the Cheyenne Urban Area. It is approximately 196 acres in size, and housed 987 people in 1890.

The neighborhood has a small population under 20 years of age (25.8 %). The remaining population consists of a large group from 20 to 44 years of age (47.9 %), with a smaller group over 44 years of age (26.3 %).

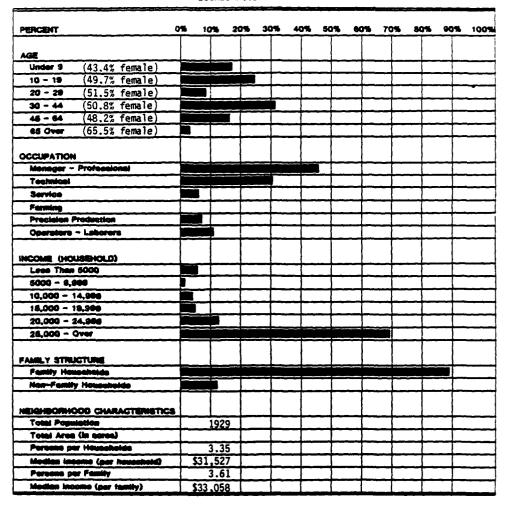
The majority of the labor force hold professional or technical positions $(76.7\ \%)$, which is reflected in the high income levels $(53.9\ \%)$ of the labor force earns over \$25,000) in the neighborhood as a whole. The remainder of the labor force consists of operators-laborers $(10.4\ \%)$, and those individuals employed in the precision production $(7.4\ \%)$ and service $(5.5\ \%)$ industries.

The neighborhood has a higher percentage of family households than non-family households (59.7%). There is a relatively even male/female distribution.

North Cheyenne does not have a neighborhood or community park within its boundaries. Using the City's standard, the neighborhood parkland deficiency is 4.9 acres. Central High does provide some open space and facilities (three athletic fields and a track), but has experienced high use, causing deterioration of turf.

Two possibilities exist in providing parkland for the neighborhood. The first is acquisition of a park site within the neighborhood, which would be expensive. The second possibility would be a joint venture (City/County) development, utilizing the 8 acres north of the neighborhood, which is already dedicated to the County as parkland.

NEIGHBORHOOD 26



NORTH RANCHETTES (026)

North Ranchettes is located in the northern most portion of the Cheyenne Urban Area, just east of Interstate 25. The neighborhood is more than 5,000 acres in size, and housed 1,929 people in 1980.

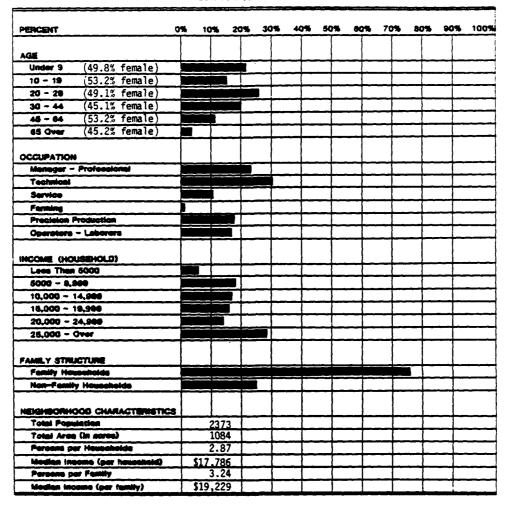
The neighborhood has a very high percentage of its population under 20 years of age (41.4 %). The remaining population includes a large group from 20 to 44 years of age (39.4 %), and a small group over 44 years of age (19.2 %).

The large majority of the labor force hold professional or technical positions (76.2 %), which is reflected in the extremely high income levels (69.5 % of the labor force earning at least \$25,000). The remainder of the labor force consists of operators-laborers (10.8 %), and those individuals employed in the precision production (7.1 %) or service (5.9 %) industries.

There is a very high percentage of family households (88.5 %). Male/female distribution is even.

North Ranchettes does not have a neighborhood or community park. Using the City's standard, the neighborhood parkland deficiency is 9.6 acres. If the 8-acre county park, which is dedicated were developed, the remaining deficiency would be 1.6 acres. The City does not see the need for any acquisition or development beyond the 8 acres.

NEIGHBORHOOD 27



ORCHARD VALLEY (027)

Orchard Valley is located in the southern most portion of the Cheyenne Urban Area, just west of the South Greeley Highway. It is approximately 1,084 acres in size, and housed 2,373 people in 1980.

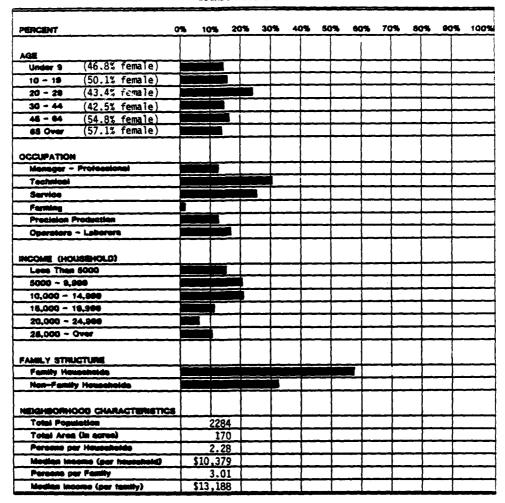
The neighborhood has a large population under 20 years of age $(38.2\ \%)$. The remaining population includes a large group from 20 to 44 years of age $(46.6\ \%)$, with a small group over 44 years of age $(15.2\ \%)$.

The majority of the labor force hold professional or technical positions (53.0~%). Two other groups account for a large percentage (35.7~%) of the labor force; they include those individuals involved in precision production (18.4~%), and operators—laborers (17.3~%). This explains the uneven in income distribution throughout the neighborhood. The remainder of the labor force consists of individuals employed in the service (10.5~%) and farming (0.8~%) industries.

The neighborhood has a high percentage of family households (76.0 %). There is a relatively even male/female distribution.

Orchard Valley does not have a neighborhood or community park within its boundaries. The closest neighborhood park (Civitan Park) being over a mile away and only 2 acres in size. Using the City's standard, the neighborhood parkland deficiency is 11.9 acres. One possible location for a neighborhood park would be at the south end of Park Avenue (acquisition has not been explored). Being located in the county, a City/County or City/School District joint venture would be necessary.

NEIGHBORHOOD 28



PIONEER PARK (028)

Pioneer is located in the westernmost portion of the Cheyenne Urban Area. It is approximately 170 acres in size, and housed 2,284 people in 1980.

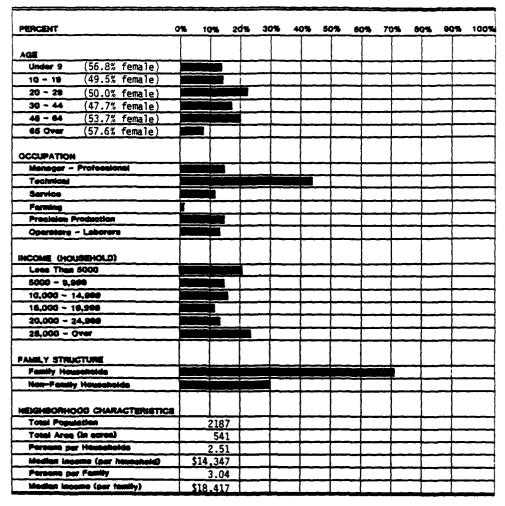
The neighborhood has a large percentage of the population in the 20 to 44 age group (40.5 %). The remainder is divided into two roughly equal groups: those individuals under 20 years of age (29.5 %), and those over 44 years of age (30.0 %).

The majority of the labor force hold technical and service positions (56.5~%). Of the remainder, 17.6 percent are operators-laborers, 12.6 percent are involved in precision production, and 1.4 percent in farming. Professional positions account for only 12.3 percent of the total, which explains the low income levels (81.9~%) of the labor force earning under \$20,000).

The majority of households are family households (57.3 %). There is a low percentage of females in child-bearing years (43.4 %).

Pioneer Park is located in the center of the neighborhood. It is 11 acres in size and well developed. The neighborhood is also within the service radius of Jaycee Park (located to the north). Using the City's standard, the neighborhood needs 11 acres of parkland, which it has.

NEIGHBORHOOD 29



SUNNYSIDE (029)

Sunnyside is located in the far eastern portion of the Cheyenne Urban Area. It is approximately 541 acres in size, and housed 2.187 people in 1980.

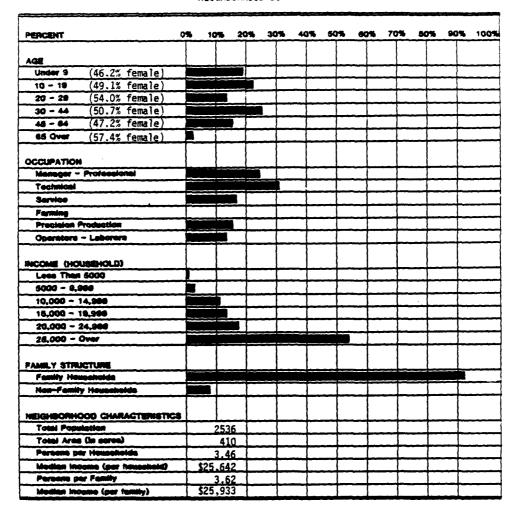
The neighborhood has a large population from 20 to 44 years of age (41.3 %). The remaining population is divided into two roughly equal groups: those individuals under 20 years of age (30.6 %), and those over 44 years of age (28.1 %).

The majority of the labor force hold technical positions (43.2 %). A portion of the remaining population includes three roughly equal groups: professional employees (14.9 %), operators-laborers (14.6 %), and those involved in the precision production industry (14.4 %). Those employed in the service (11.4 %) and farming (1.5 %) industries account for the remainder.

The neighborhood has a high percentage of family households (70.3 %). There is a relatively even male/female distribution.

Sunnyside does not currently have a neighborhood or community park. However, a partion of the neighborhood is within the service radii of Cahill (soccer complex) and Brimmer parks. Using the City's standard, the neighborhood parkland deficiency is 10.9 acres. The City feels that the addition of Sunnyside Park (2 acres dedicated, 30 acres at buildout) and Sun Valley Community Park (located southwest of the neighborhood) will provide more than enough acreage for the whole neighborhood in the near future.

NEIGHBORHOOD 30



SUN VALLEY (030)

Sun Valley is located in the southwestern portion of the Cheyenne Urban Area. It is approximately 410 acres in size, and housed 2,536 people in 1980.

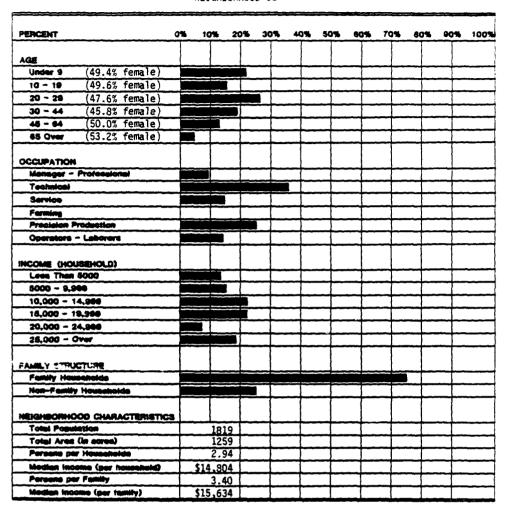
The neighborhood has a large population under 20 years of age (41.5 %). The remainder consists of a large group from 20 to 44 years of age (39.6 %) and a smaller group over 44 years of age (18.5 %).

The majority of the labor force hold professional or technical positions (56.0 %), which is reflected in the high income levels (52.4 % of the labor force earning \$25,000 or more) in the neighborhood as a whole. The remainder of the labor force consists of those individuals employed in the service (16.7 %) or precision production industry (14.6 %), and operators—laborers (12.6 %).

The neighborhood has an extremely high percentage of family households (92.2 %). There is also a high percentage of women in child-bearing years (54.0 %).

Sun Valley is served by United Nations Neighborhood Park, which is 2 acres in size. Using the City's standard, the neighborhood deficiency is 10.7 acres. Once Sun Valley Park is developed, it will serve the eastern portion of the neighborhood. If half of Sun Valley's 10 dedicated acres is credited to the neighborhood, the parkland deficiency decreases to 5 acres. The only possible means to provide additional parkland in Sun Valley would be to develop the drainage (detention) area north of the Union Pacific tracks. As was mentioned earlier, the liability and accessibility issues would have to be adequately addressed.

NEIGHBORHOOD 31



WALTERSCHEID (031)

Walterscheid is located in the southern portion of the Cheyenne Urban Area. It is approximately 1,259 acres in size, and housed 1,819 people in 1980.

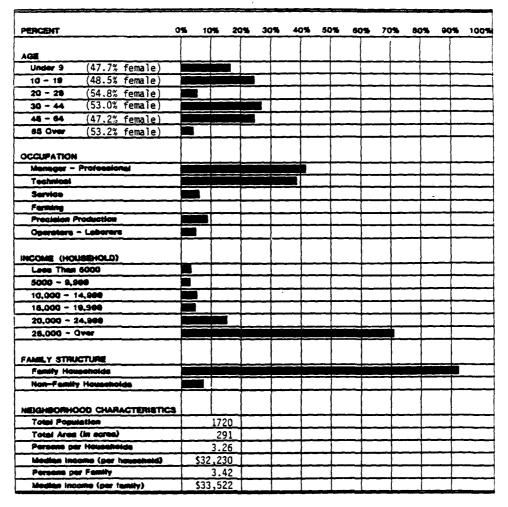
The neighborhood has a large population under 20 years of age (37.1 %). The remaining population includes a large group from 20 to 44 years of age (45.8 %), and a small group over 44 years of age (17.1 %).

The majority of the labor force hold technical (36.6~%) or precision production (25.2~%) positions. The remainder of the labor force consists of service employees (14.2~%), operators-laborers (14.1~%), and professionals (9.9~%). This variety in terms of occupation, explains the uneven distribution of income throughout the neighborhood.

The neighborhood has a high percentage of family households (75.2 %). There is a relatively even male/female distribution.

Walterscheid does not contain a neighborhood or community park, although a small portion of the neighborhood is within the service radius of Civitan Park. Using the City's standard, the neighborhood parkland deficiency is 9.1 acres. The City finds it difficult to provide parkland in this area. Possibilities for facilities along the floodplain will exist as development in this neighborhood expands westward. The City has no plans for acquisition or development here in the near future.

NEIGHBORHOOD 33



WESTERN HILLS (033)

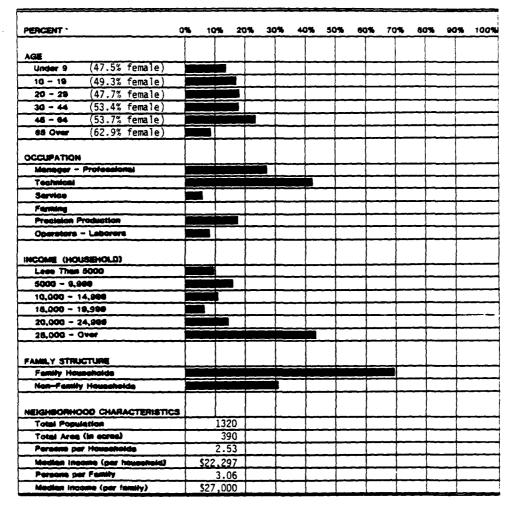
Western Hills is located in the northwestern portion of the Cheyenne Urban Area. It is approximately 291 acres in size, and housed 1,720 people in 1980.

The neighborhood has a large portion of the population under 20 years of age (39.2~%). The remaining population consists of two roughly equal groups: those individuals from 20 to 44 years of age (32.6~%) and those over 44 years of age (28.2~%).

The majority of the labor force hold professional or technical positions (80.7 %), which explains the high income levels (85.8 % of the labor force earns over \$20,000). The remainder includes those individuals involved in the precision production (9.1 %) or service (5.6 %) industry, and operators-laborers (4.6 %).

The neighborhood has a very high percentage of family households (92.6 %). There is also a high percentage of women in child-bearing years (54.8 %).

Western Hills does not have a neighborhood or community park within its boundaries. In addition, Western Hils is not within the service radii of any neighborhood parks. Using the City's standard, the neighborhood parkland deficiency is 8.6 acres. A portion of this deficiency will be satisfied by the 8 acres of dedicated County parkland once it is developed. As development spreads westward (which is expected in this neighborhood) a detention area may be dedicated, but would not be accepted by the City without major renovation.



YELLOWSTONE (034)

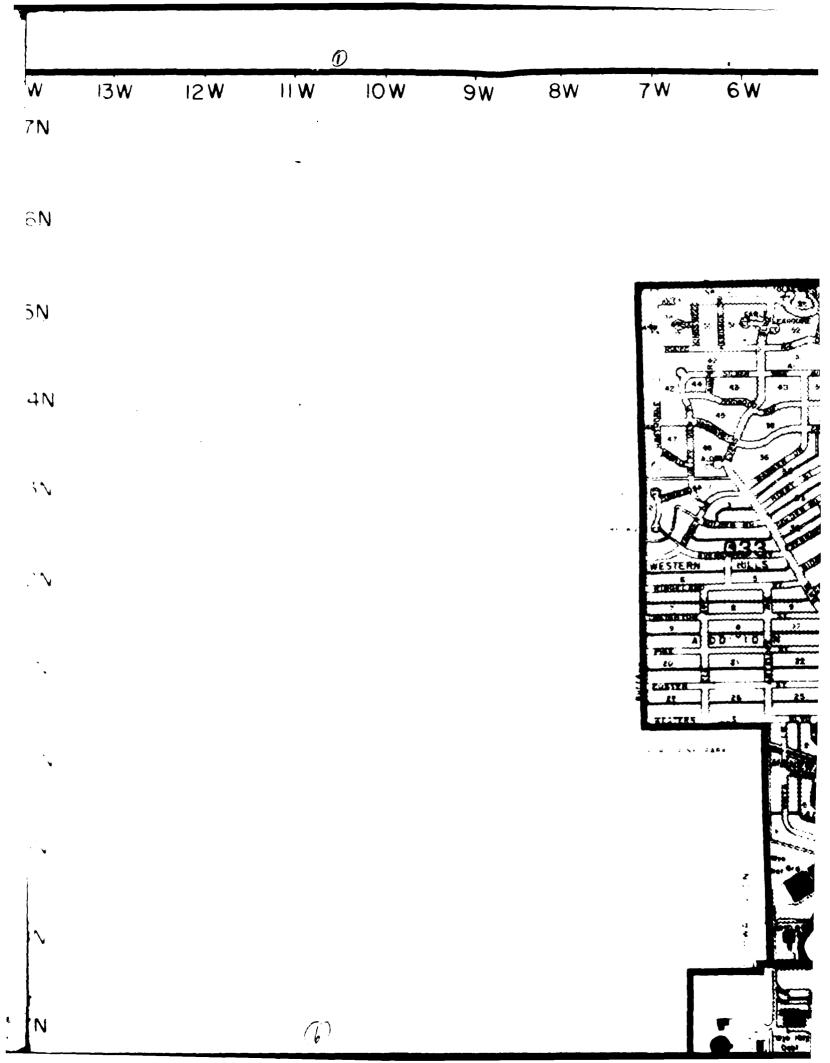
Yellowstone is located in the northwest portion of the Cheyenne Urban Area. It is approximately 390 acres in size, and housed 1,320 people in 1980.

The neighborhood has a large population over 44 years of age (33.0 %). The remaining population consists of a large group of individuals 20 to 44 years of age (36.4 %), and a smaller group under 20 years of age (30.6 %).

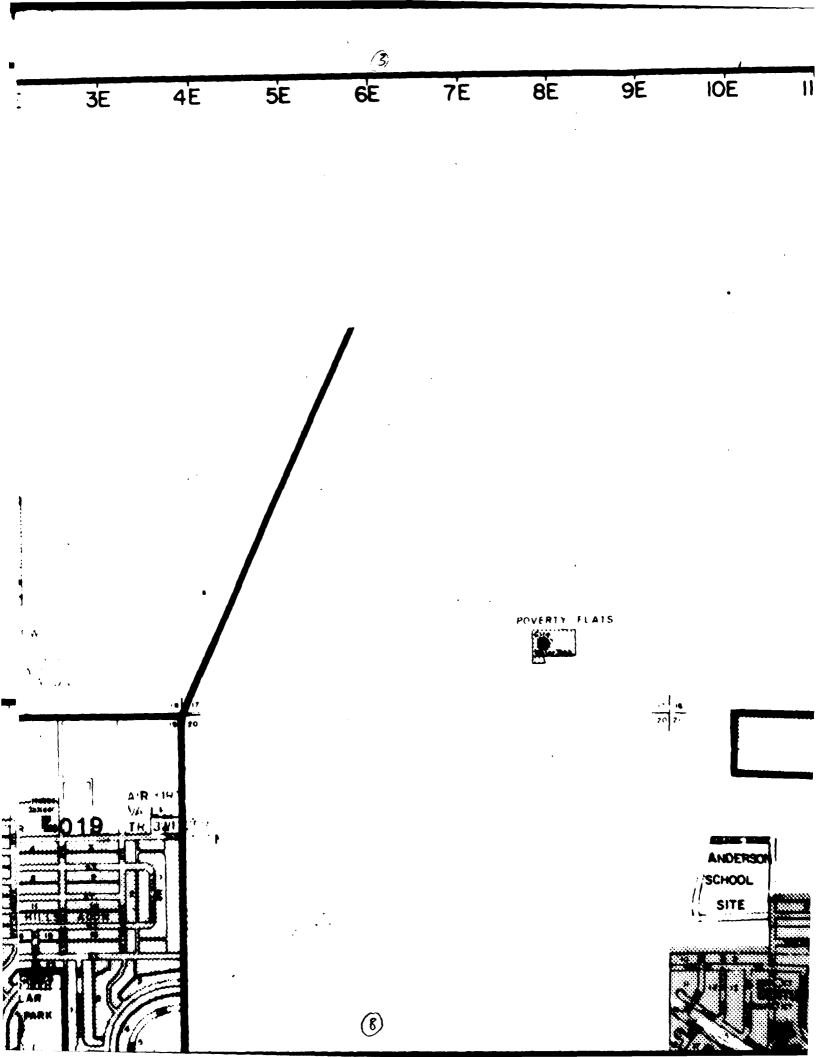
The majority of the labor force hold professional or technical positions (70.2 %). The remainder consists of individuals involved in precision production (17.3 %), operators—laborers (7.3 %), and persons employed in the service industry (4.9 %).

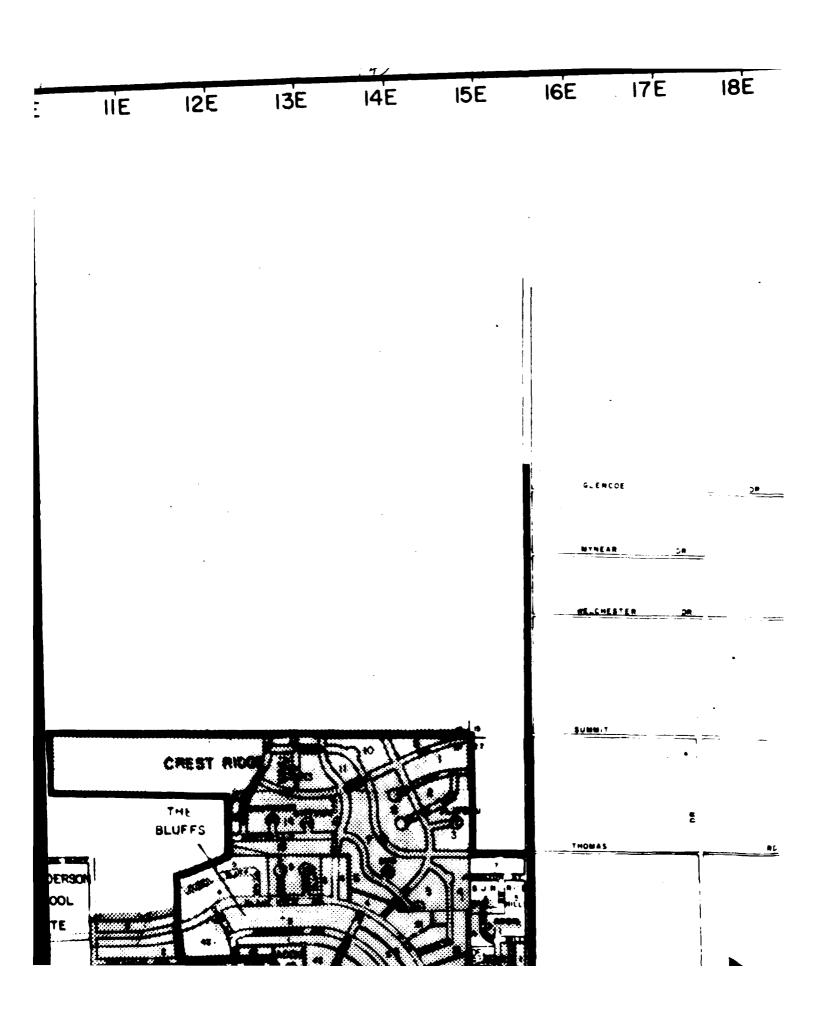
The neighborhood has a high percentage of family households (69.3 %). There is a relatively even male/female distribution.

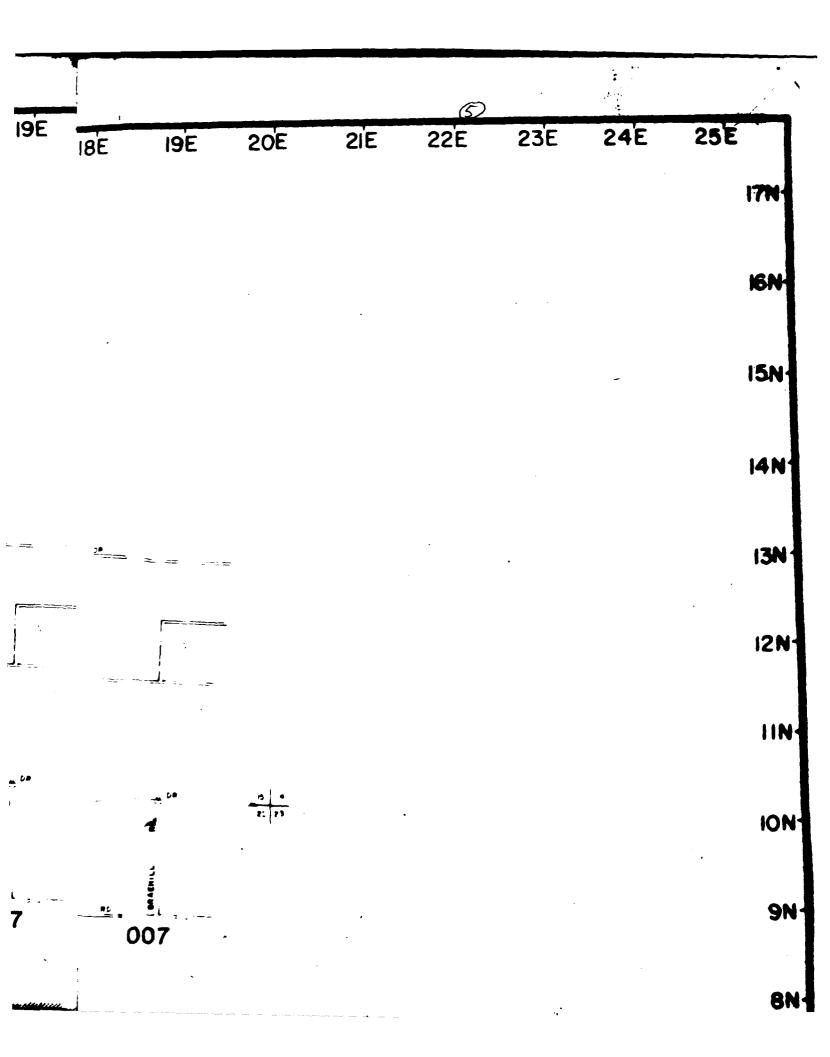
Yellowstone is served by Mylar Park (23 acres in size) and Smalley Park (4 acres). Both parks are located in the southwest portion of the neighborhood. Using the City's standard, parkland demand for Western Hills is 6.6 acres. If half the acreage of Mylar and Smalley Parks (because they serve both Yellowstone and Indian Hills) is credited to Yellowstone, the neighborhood has a surplus of 6.9 acres.

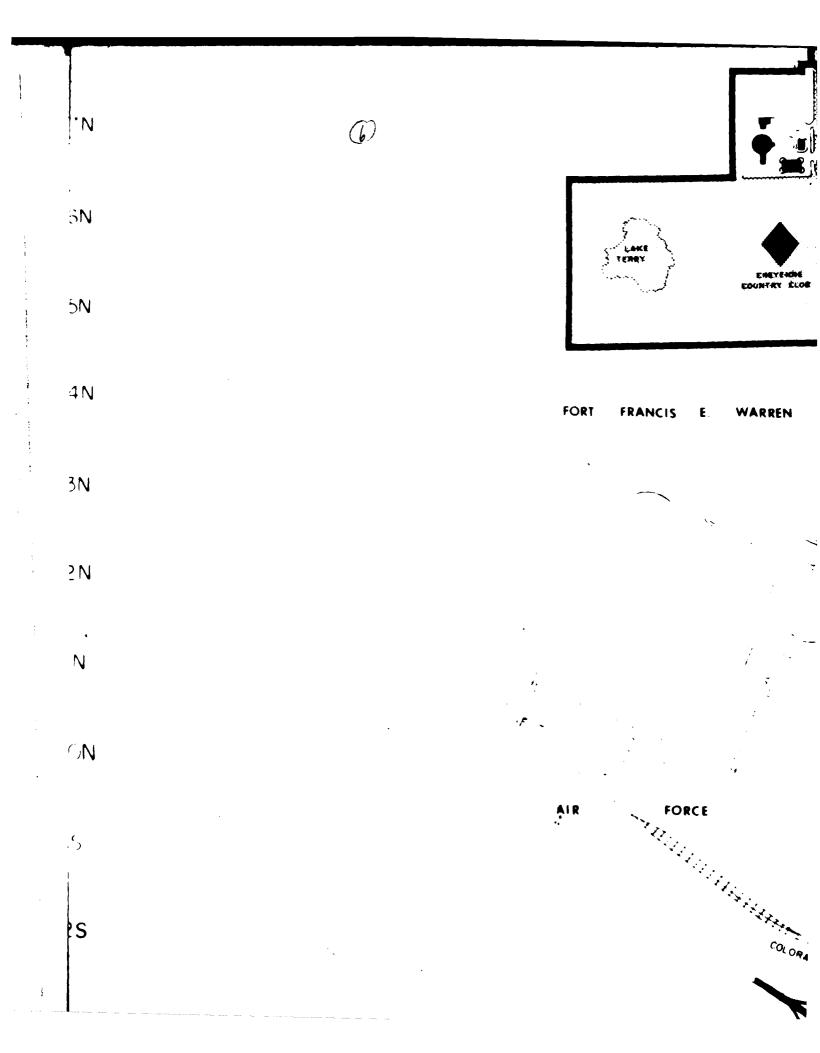




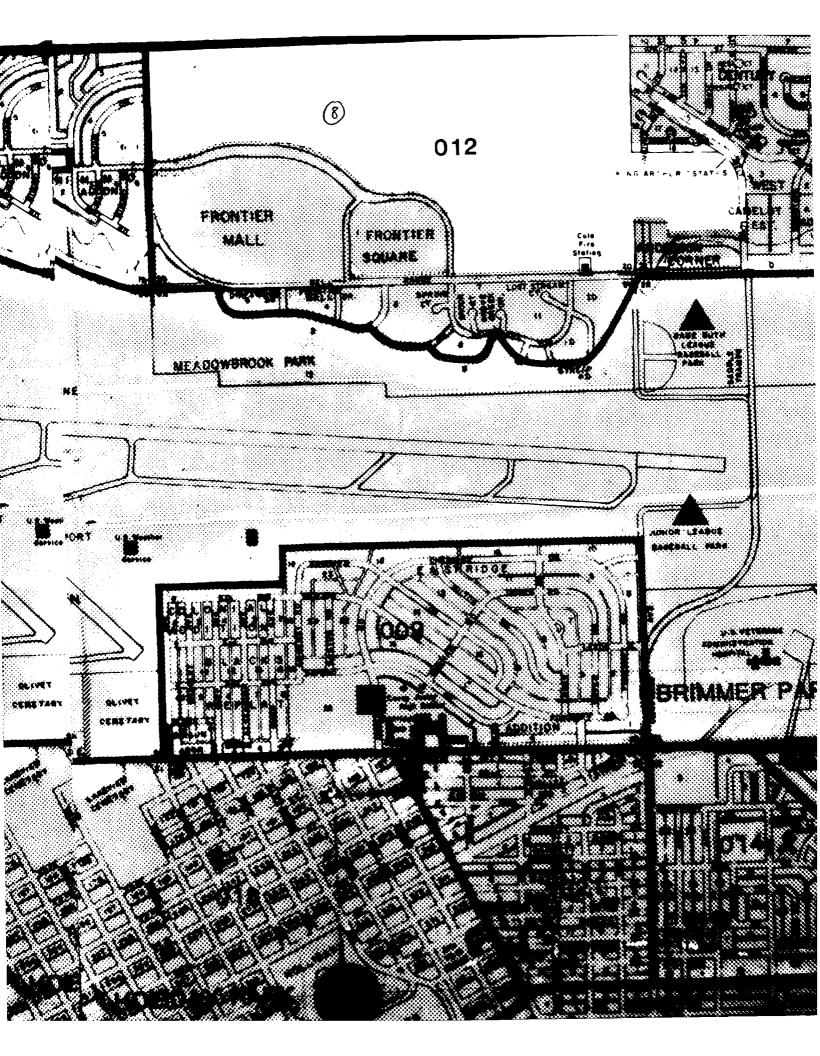


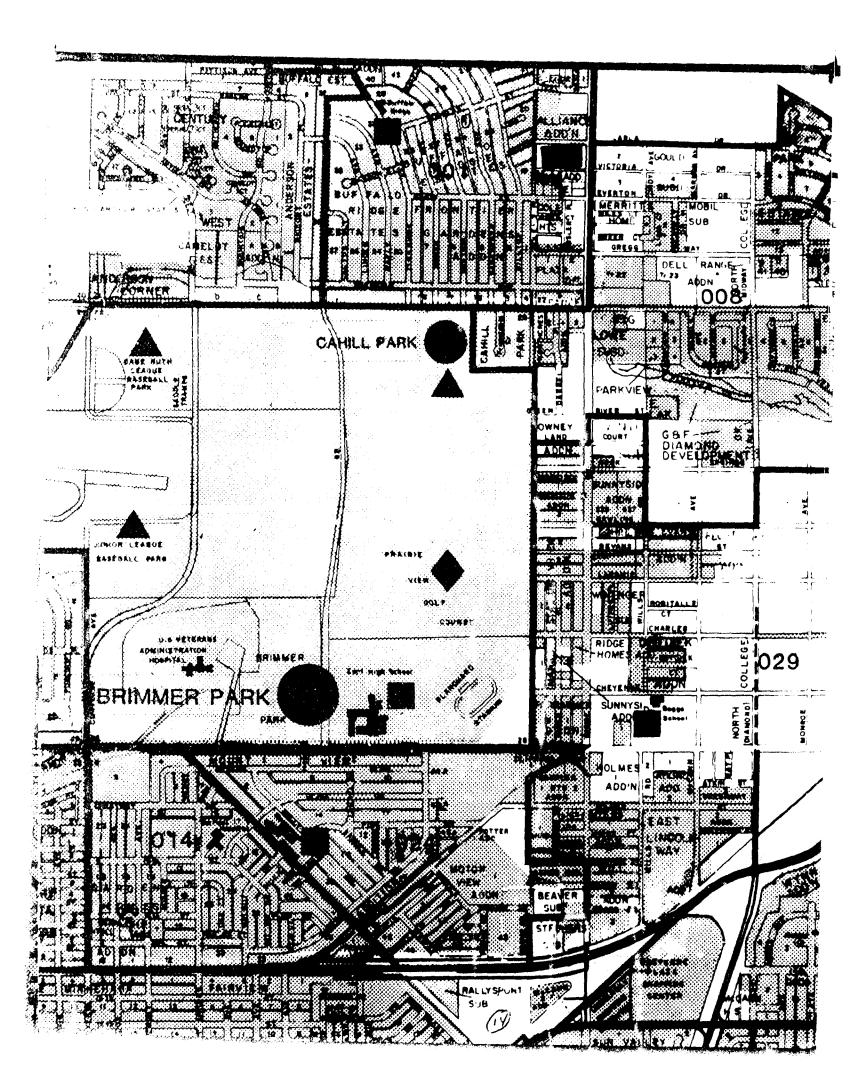


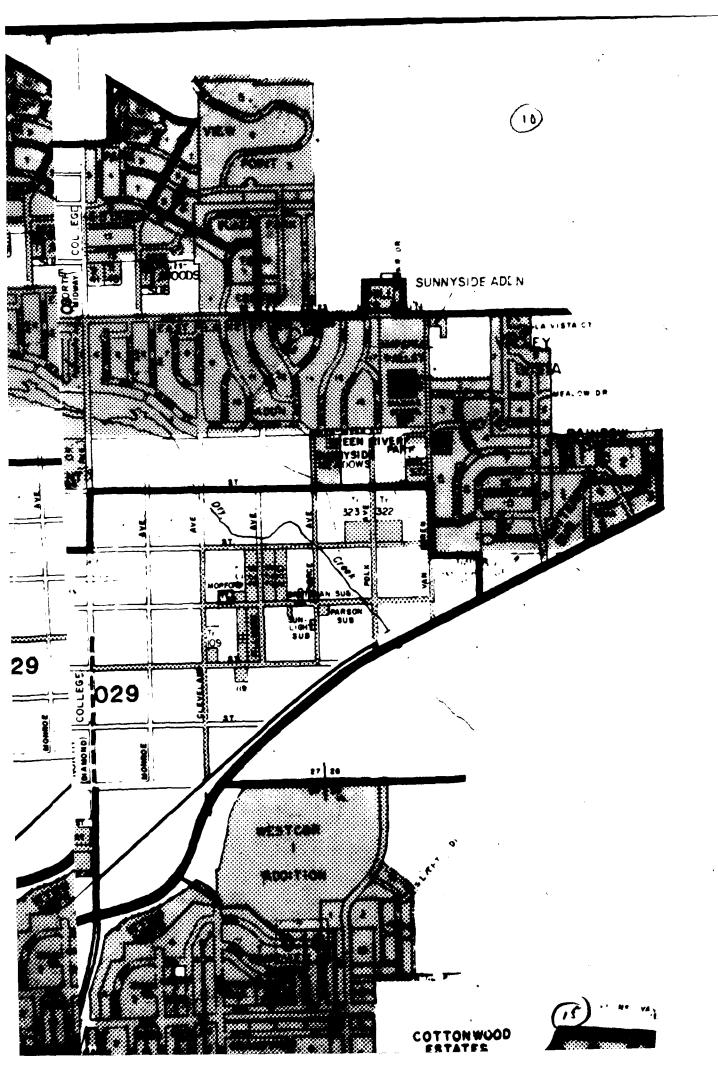


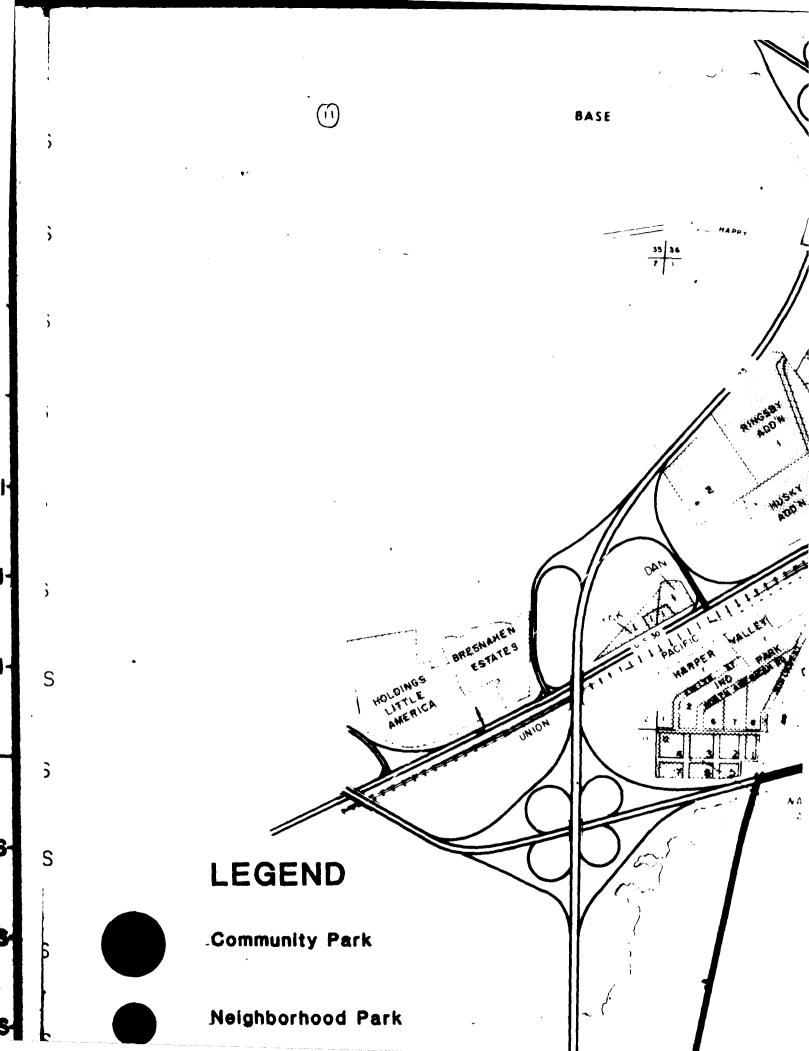


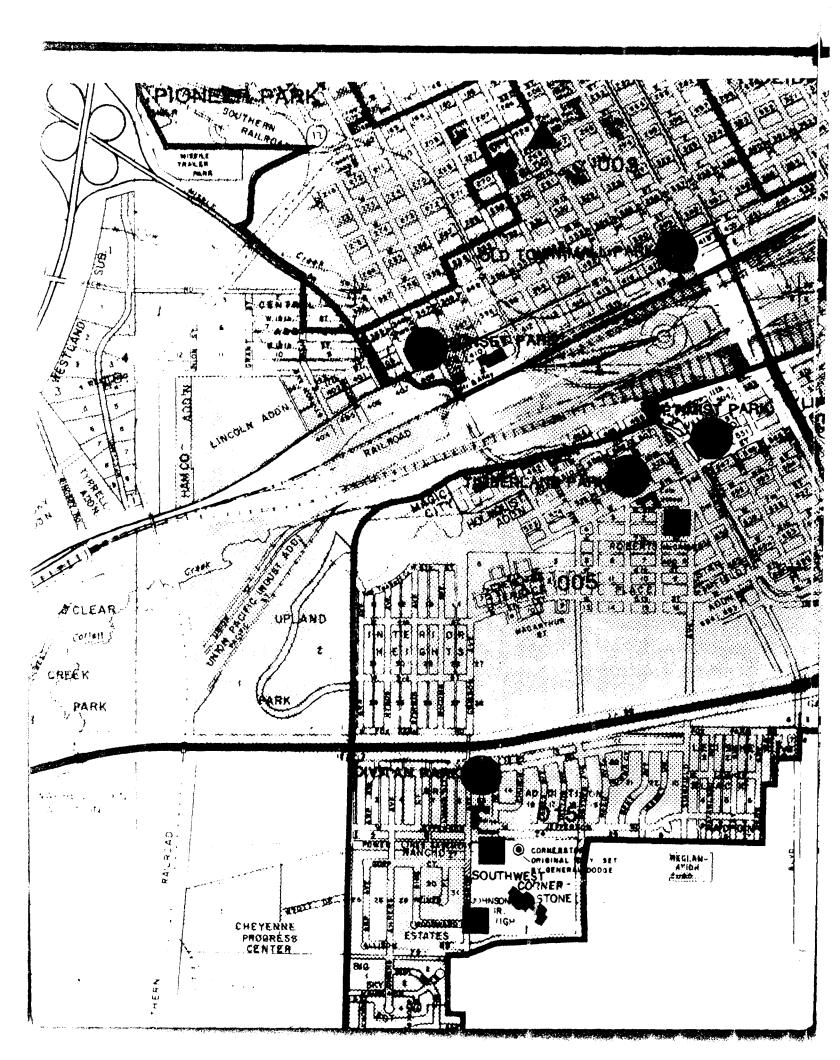


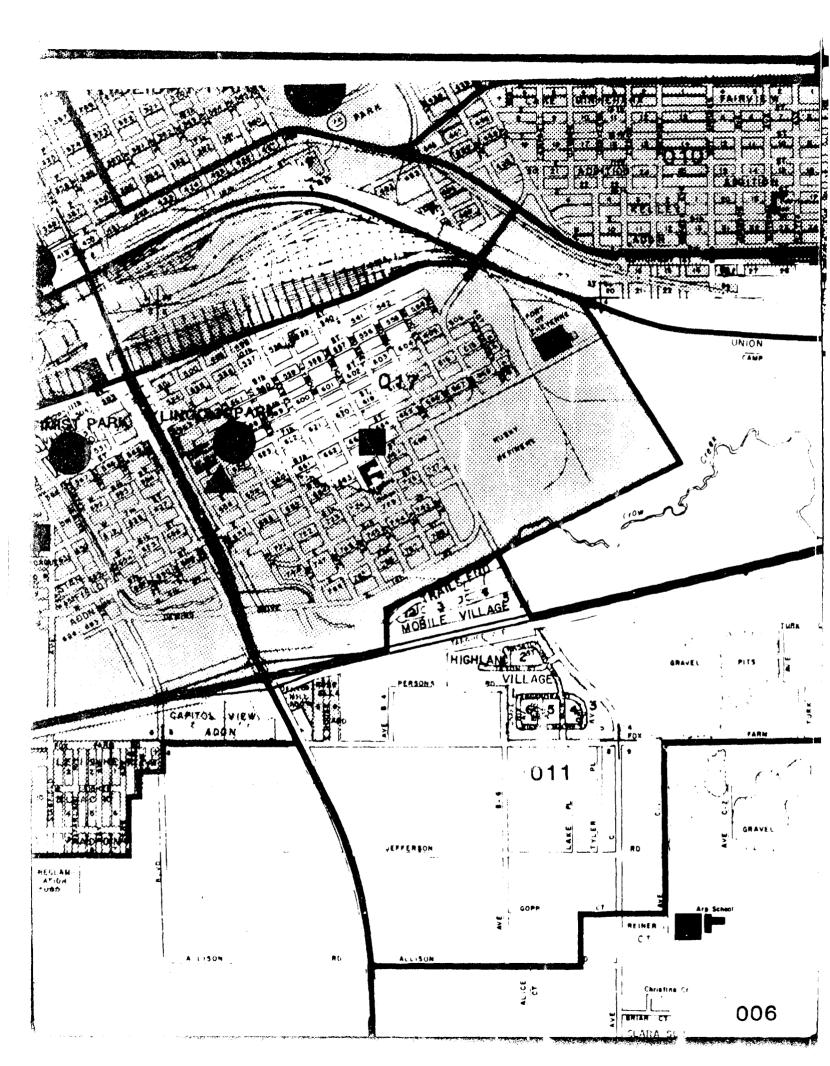


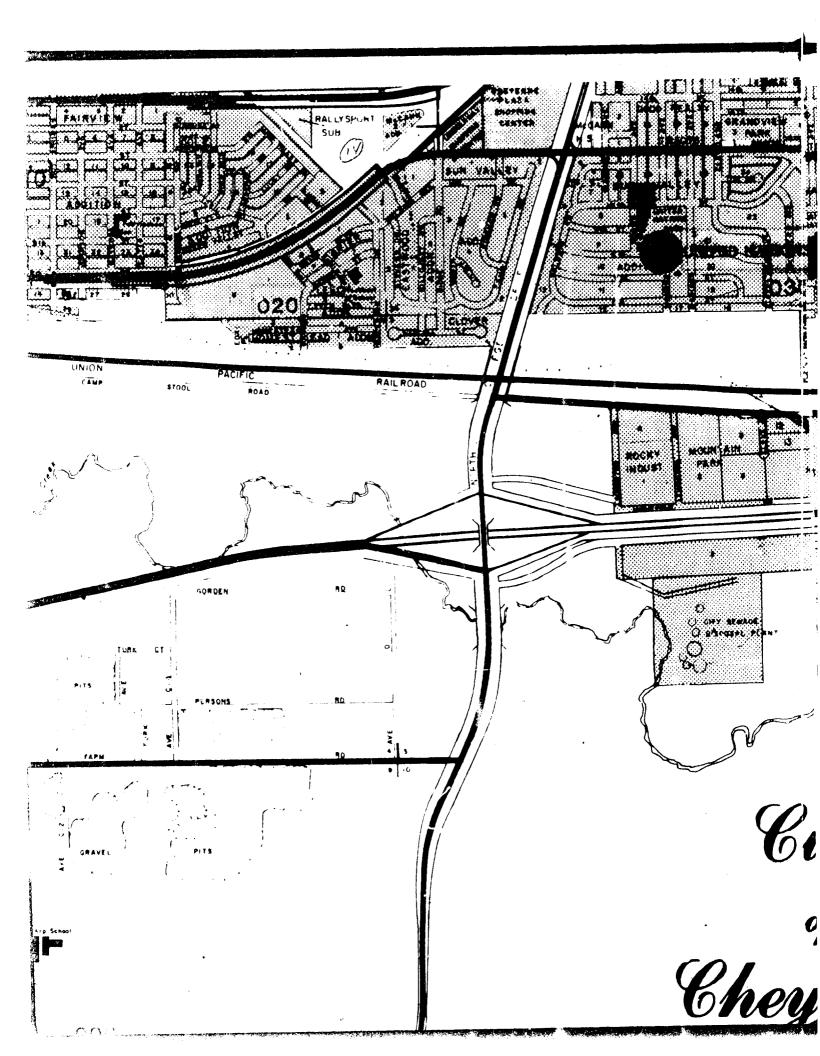


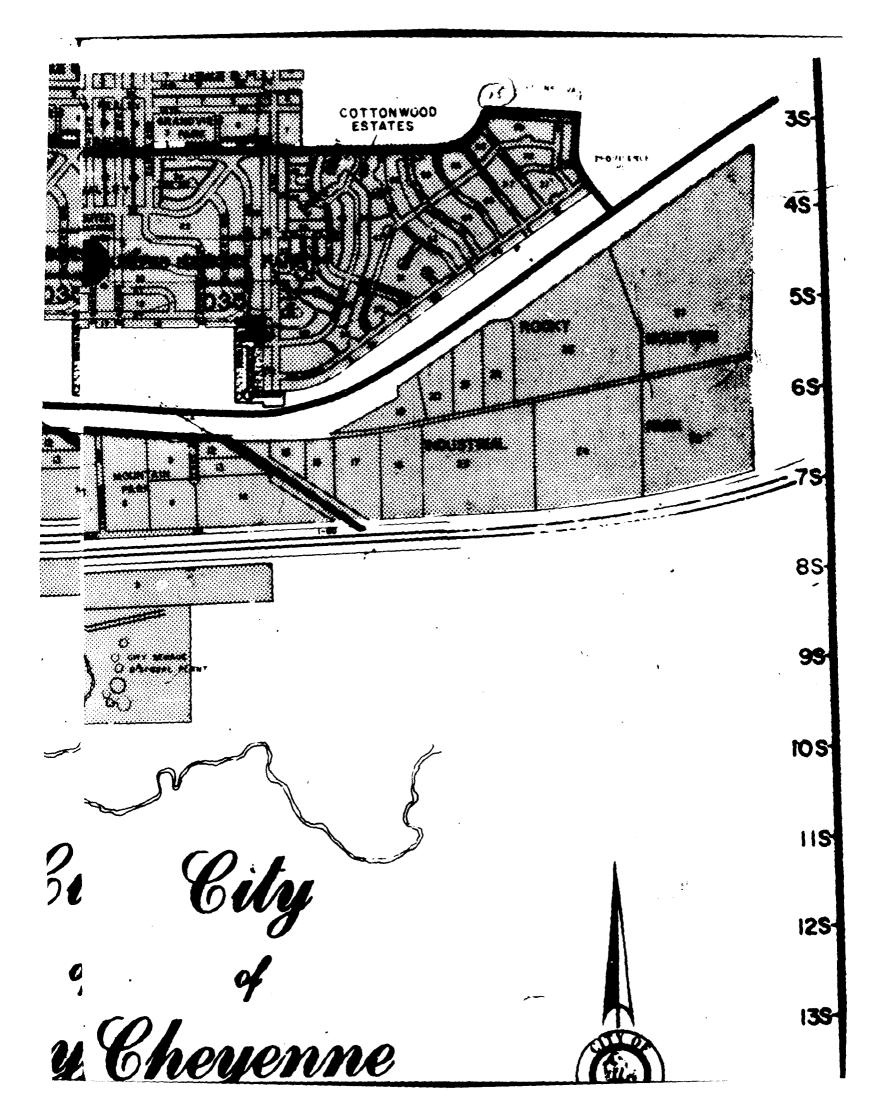


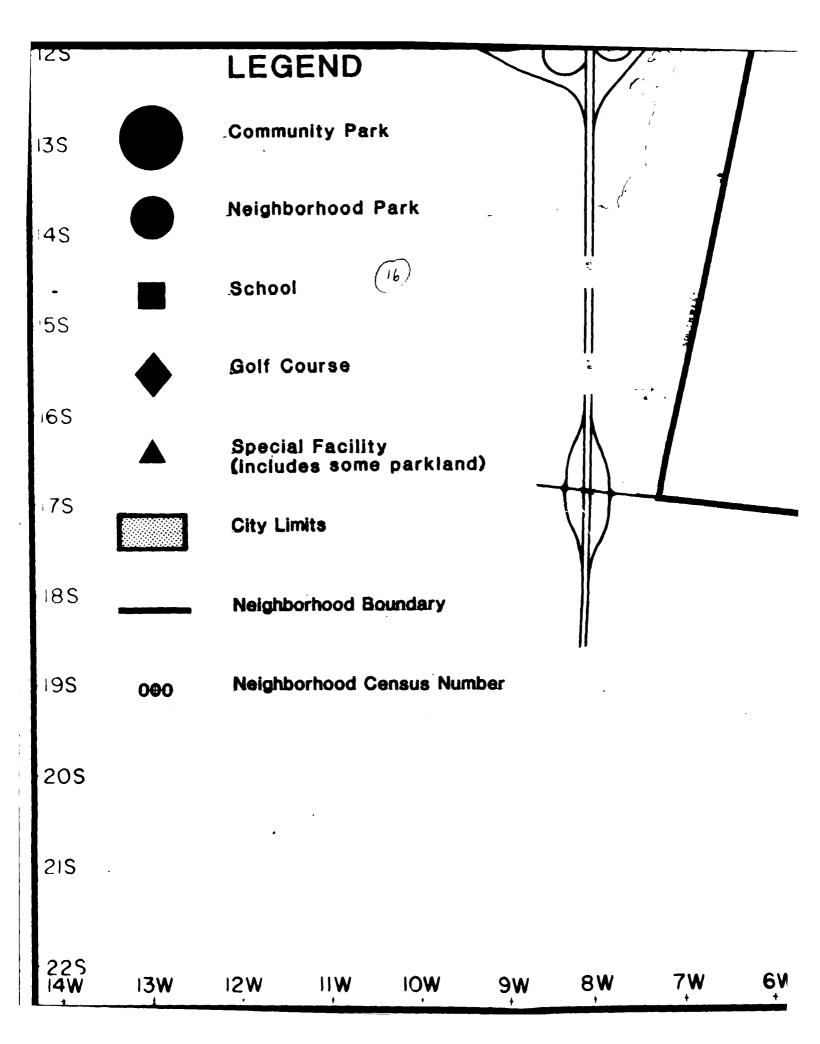


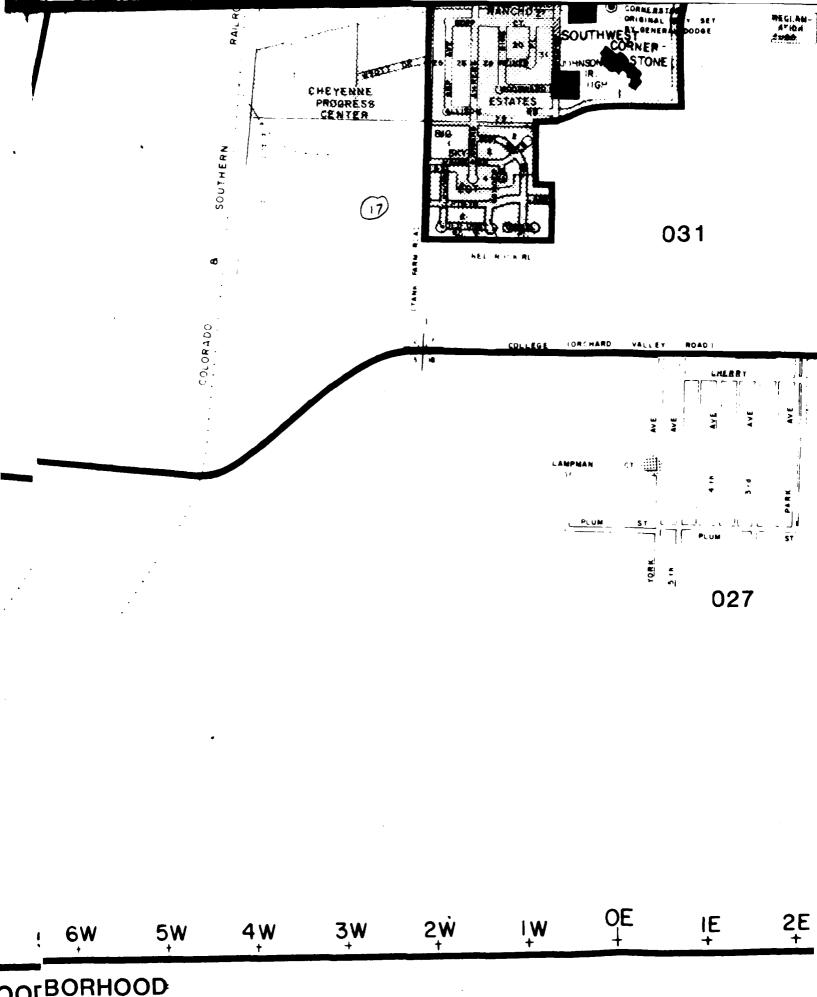




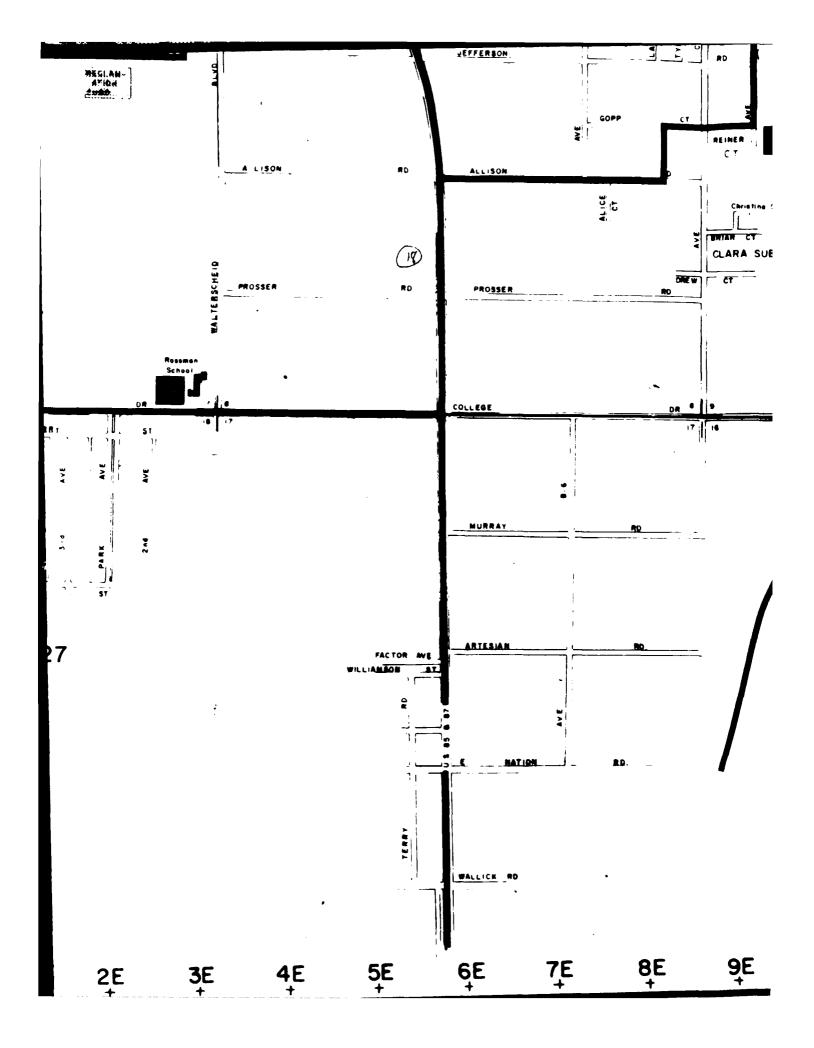


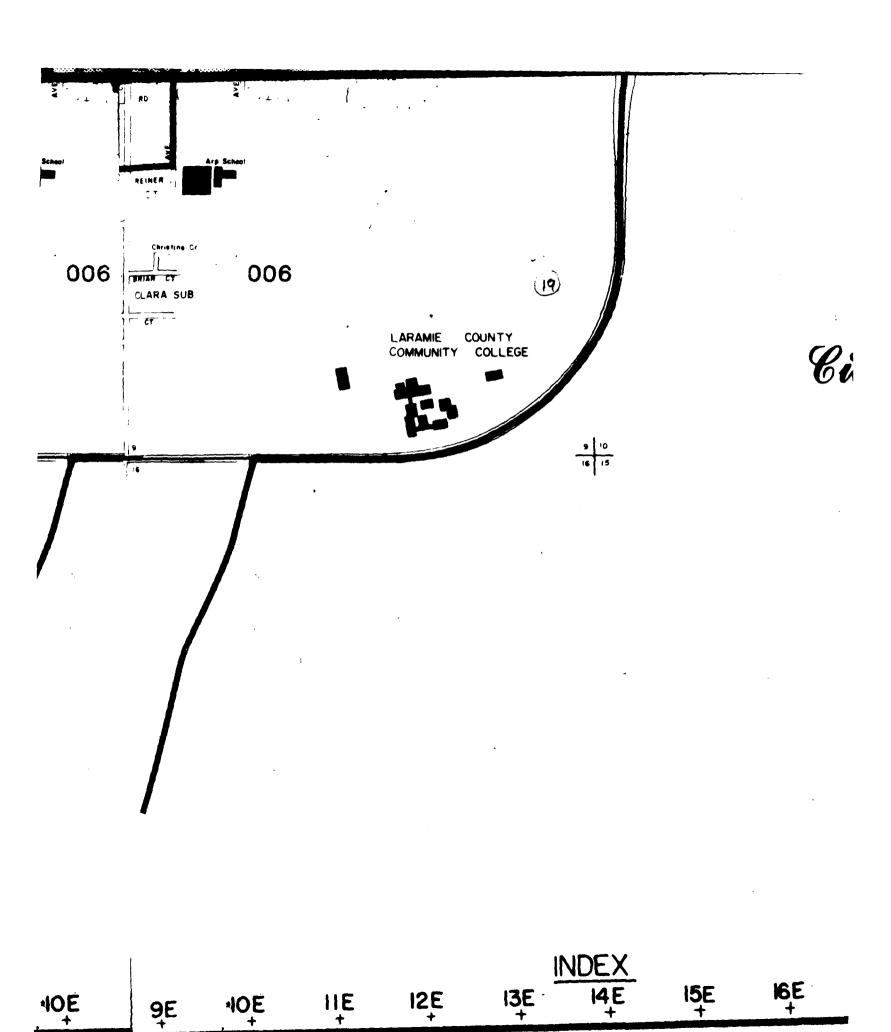


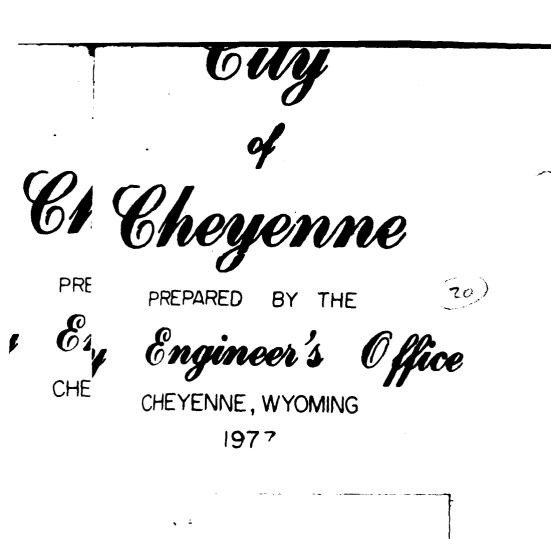




OOLBORHOOD







500 0 1000 · 2000

SCALE: 1"= 1000'

Grid syste approximat of Centra

NOTE
Grid system based upon 1000 intervals,
approximately, beginning at the intersection
of Central Ave and Pershing Blvd.

© City of Cheyerr

REVISION DATE:

JU_Y -1982

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20E

SIE

22E

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24E

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